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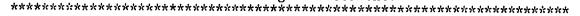
IDENTIFIERS Environmental Problems; Health Hazards; Household

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ABSTRACT

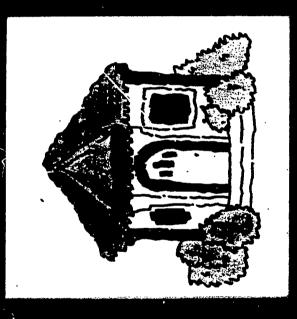
The two books, the leader's manual and the members' manual address one environmental problem people come into contact with on a daily basis: potentially hazardous household products. The purpose of the books is to educate community groups about hazardous materials. The member's manual shares information about hazardous items and provides facts to let the user decide what to do about them. In the two manuals, information and activities are presented in five sections about: (1) what hazardous household products are and where they are found in the home; (2) health risks hazardous products pose to people; (3) the issue concerning disposing of hazardous materials; (4) non-hazardous alternatives; and (5) activities to evaluate the members' expertise about hazardous materials. The leader's manual has a reduced version of each page from the members' manual. In the margin are tips and information bullets to assist the leader in implementing the activities. The members' manual presents 32 learning activities. (MDH)

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THE HAZARD HOUSE WORKBOOK



A WORKBOOK ABOUND HOUSEHOLD CHEMICALS

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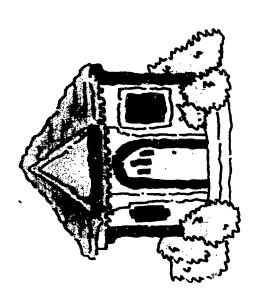
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WORKBOOK HAZARD HOUSE THE



A WORKBOOK ABOUT HOUSEHOLD CHEMICALS LEADER'S MANUAL

Coordinator at the Department of Toxic Substances Control by writing to: Department of Toxic Substances Control, P.O. Box 806, Sacramento, CA 95812-0806 916 - 322 - 0476 OPGL91-04 please contact Melinda J. Fox, Public Education To obtain additional copies of this document,

Printed on Recycled Paper

DEAR LEADER:

People of all ages are becoming very concerned about environmental issues. This book will address one environmental topic that we all interact with daily: potentially hazardous household products.

related safety tips for these However, if these products are handled improperly, or can be called hazardous? narmiul. This activity book Most of these products, if thinners, pesticides, toilet used and stored accordcleaners and polishes all contain ingredients that they may be potentially directions, are safe and disposed of incorrectly, will guide you and your Did you know that anting to manufacturer's members through the freeze, oven cleaners, cause little concern. associated risks and common products.

HOW TO USE THIS BOOK

Please use this book to best suit your needs. Each section focuses on one key concept or purpose. Follow the sections in sequence, choosing the activities appropriate for your group's needs and abilities. You are not expected to complete all the activities, the choice is yours.

The Leader's Manual has a reduced version of each page from the Members Manual. In the margin are tips and information bullets

to assist you, as the leader, in implementing the activities.

nembers, If your program discretion as to how many an award. Since this book pendently, then members through the activities and complete the work in their variety of youth organiza-We have left it up to your nas been prepared for a activities are required for ions and each organizacomplete activities indegether at meetings with you dictate the specific iollow-up work done at nome by the members. system, we chose to let nanuals. For a greater tion has it's own award can guide themselves nembers can work tomaterial, leaders and requirements for your is such that members understanding of the





ERIC

TABLE OF CONTENTS

AZARDOUS HOUSEHOLD PRODUCTSPages 1 - 19	Are They?	Where Can You Find Them?
HAZARDO	What Are They?	Where Can Yc

- S YOUR HEALTH SAFE?.....Pages 20 38 Let's Do The Safety Rules! Routes Of Exposure Who Can Help? \otimes
- TO THROW OR NOT TO THROWPages 39 58 The Wrong Way Out The Three R's (F)
- SAFER ALTERNATIVES......Pages 59 74 Compare And Contrast Do An Ad! ₩
- Check Your Hazardous Household Product 1Q! 旸





SECTION

PURPOSE

Develop awareness of potentially hazardous products that are commonly used in and around the house.

OBJECTIVE

The member will be able to:

- 1. Define "HAZARDOUS."
- Give examples of hazardous products.
- Identify "signal" words that indicate potential harm; and

HAZARDOUS

HOUSEHOLD

PRODUCTS

4. Locate places in the home w' are these products are usually stored.

MATERIALS

Common household products with legible labels, paper, pens, scissors.









LEADER TIPS

- Elaborate on the definimaterials and hazardion, ask the member 1. To introduce this secous wastes. See the means. Explain that HAZARDOUS WASTE. egulate hazardous here are laws that next page entitled what "hazardous" ilon using the four criteria.
- criteria . Use the following for examples when examples of items that they run out of ideas: meet the hazardous 2. Ask the members for

floor and furniture polishes. aerosols, hair spray, and thinners, solvents, adhesives, rubber cement, wood preservatives, **GNITABLE**: paints,

cleaners, pool chemicals, drain and toilet cleaners. cleaners, car batteries, silver polish, and oven, **CORROSIVE:** bleach powder or abrasive

More commonly seen in wastes, wastes from dry industry, chromic acids, produce a deadly gas. REACTIVE: any bleach cleaner mixed with an ammonia product will copper stripping and aluminum anodizing

dye manufacturing wastes cell batteries, and ink and are all reactive.

cides, herbicides, fertilizers, lea collars, roach and ant car oil, car batteries, silver paints, fungicides, insectitoilet cleaners, mothballs, **TOXIC:** brake fluid, used polish, oven, drain and poison, and medicines. killer, rat and mouse

tions can occur immedi-3. Describe to your mempoisonous. Toxic reachypically occur quickly. period of time while poisonous reactions ately or over a long between toxic and bers the difference







HAZARDOUS WASTE

the regulations. But, when The California Department hese household items are ransports and disposes of nome have ingredients in currently exempted from animals and the environegulates any entity that generates, treats, stores, come hazardous waste, of Health Services (DHS) nazardous waste. Even definition of hazardous, hough many common thrown away, they bethese same items are disposed of correctly. products around the ment if not used and and they can cause damage to people, hem that meet the

refer to these documents: waste you may want to regarding hazardous For more information

25117. It reads "hazardous he definition of hazardous ts quantity, concentration, waste is listed in the Health wastes which, because of and Safety Code, Section waste or combination of nfectious characteristics or physical, chemical, or waste is defined as a may either:

- incapacitating revers- Cause, or significantly rate or an increase in serious irreversible or crease in the death contribute to an inble illness; or
- hazard to human health disposed of or otherwise or environment when present or potential improperly treated, stored, transported, Pose a substantial managed."

contains more information materials and wastes that describes the four criteria materials and wastes. The **California Gode of** are hazardous. It also regarding hazardous regarding hazardous (ignitable, corrosive, nas a list of over 700 Regulations, Title 22 'eactive, toxic).

radioactive, or can cause substances which is toxic, substantial personal injury he federa' government. The federal government actually has stricter and what is hazardous than iible, a strong sensitizer, flammable or combusgenerates pressure, is substance as any submore comprehensive regulations regarding defines a hazardous corrosive, an irritant, stance or mixture of or illness. California



LEADER TIP

HAZARDOUS HOUSEHOLD **PRODUCTS** Read this introductory page together.

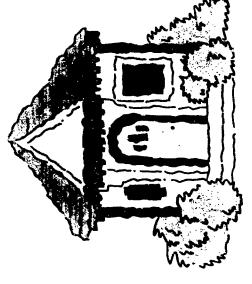
SECTION

M any of the **HAZARDOUS**

HOUSEHOLD **PRODUCTS** What Are They?

nazardous to you if tems, paint, mediused in the wrong hold products are products found in cleaners, furniture way. This first secproducts, can be hazardous houseunderstand what and around your tion will help you and where they cines and auto home, such as polish, garden can be found.

Where Can They Be Found?



· · i= E

MEAN? HAZARDOUS WHAT DOES

is present. Hazardinjured or harmed chance of being environment sick. means that the animals, or the ous things can make people, HAZARDOUS T he word

corrosive, reactive or toxic, it can be something is hazardous. If something is ignitable, There are four ways to tell if hazardous.

Ignitable

Can catch on fire easily.



Reactive

dangerous fumes when exposed Can catch on fire, explode or give off to water or air.



Can burn the eyes and skin or eat away containers. ✓orrosive



oxic

Can make you sick immediately or over a period of time.

LEADER TIP

HAZARDOUS WHAT DOES **MEAN?**

be hazardous. Refer to page 2 of the Leader's Read the definitions of hazardous as a group. amples of what might Manual for additional Ask members for exsuggestions



section 1





LEADER TIP

WHAT IS IT?

ous household product Discuss what a hazardis with your members.

WHAT IS A **HAZARDOUS PRODUCT?** HOUSEHOLD



ers, weed killers,

household product common items are house that can be hazardous, Some name says - it is a toilet bowl cleanproduct in your A hazardous is just what the

stored or disposed of improperly, you, cleaners, if these environment can freeze and oven bleach, oil, antiyour pets or the items are used, be injured.









23

100K WHAT'S HAZARDOUS

T he following is ardous household hold products not mentioned? If so, a list of some hazproducts that you you think of other hazardous houseyour house. Can add them to the list. may find around

foilet Bowl Cleaners aundry Detergent Pet Flea Collars Weed Killer Slug Bait

Brake Fluid Antifreeze Paint

Room Deodorizers Oven Cleaners

Glass Cleaners Furniture Polish Paint Strippers

Medicines **Pool Acids**

Charcoal Lighter **Bubble Bath** Floor Polish

LEADER TIP

LOOK WHAT'S **HAZARDOUS**

pool shed, and laundry hand how many memroom. Do a survey by listed on page four of the Members Manual bers have the items members what they their home, garage, Brainstorm with your think is hazardous in



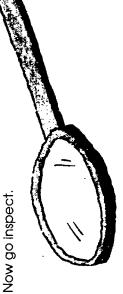
HAZARD DETECTIVE

Lead your members through this exercise verbally and/or have them complete the map at home. Depending on the age of your member, stress whether participation by an adult is mandatory.

BE A HAZARD DETECTIVE

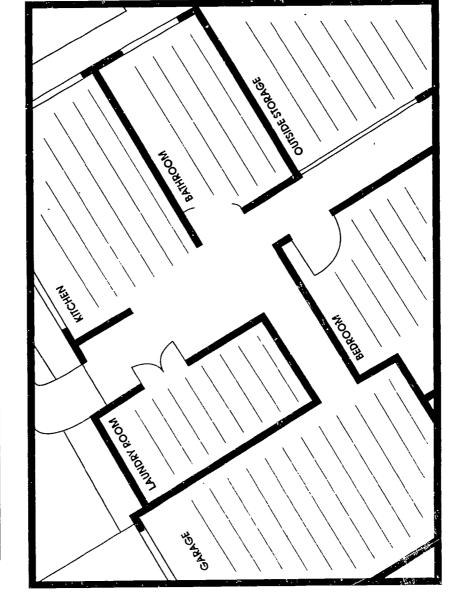
CTIVITY

Inspect your household for hazardous household products. Fill in the map on the following page where they are located. Be sure to look in any storage areas, sheds or garages that may be part of your house.









ACTIVITY

HAZARD DETECTIVE

members may not be aware of are: Some items that your

Watch batteries:

Mercury

Cosmetics:

Iron oxides, polyvinylpyrrolidone

Nail polish:

Acetone, toluene

Nitrobenzene, trichlo-Shoe polish:

roethylene, methylene chloride

Ceramics:

Clays with silica,

glazes with heavy metals

Jewelry making: Silver solder often has cadmium

Hair spray: Vinyl acetate polymer

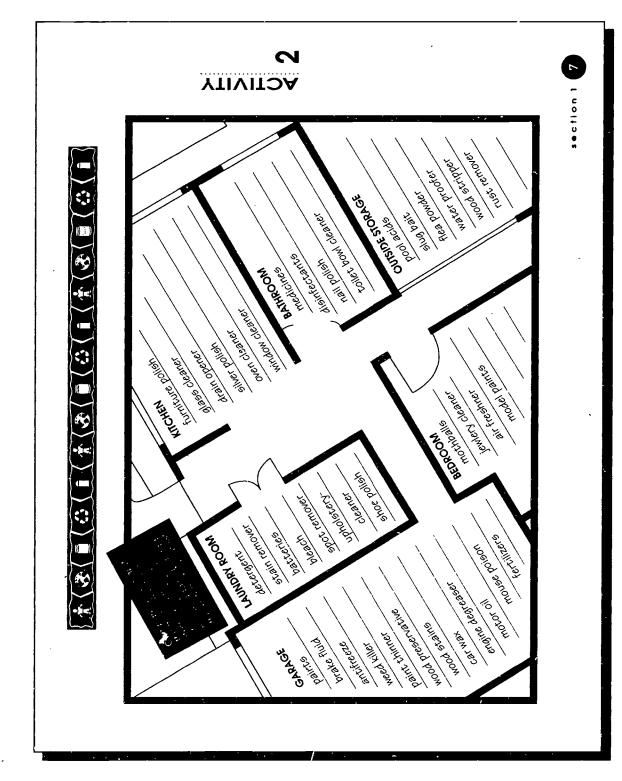
53

6 section 1



HAZARD DETECTIVE

You can have your sembers tally the rumber of items found per room, find the average number of products per household or find the room with the greatest number of products stored in it.





READ THE LABEL

to see the benefits dangers of a proding is a good way dangers. The foland the possible uct. A variety of used to alert the user to potential owing list shows the many words signal words are you can find on abel read-

uct should be used careful. The prod-CAUTION - Be with care.

can occur quickly or over a long pe-

TOXIC - Similar to poison, but injury

> plies a stronger risk than caution. Use with added care. WARNING - It im-

HARMFUL - Can

riod of time.

cause injury or

damage.

sure or unsafe use may cause injury, DANGER - Expoillness or death.

quickly.

FLAMMABLE - Easily set on fire, will burn

> ical action, usually pairs a living thing through its chemkills, injures or im-POISON - A substance that, quickly.

May cause injury,

Ilness or death.

BONES - Danger.

SKULL & CROSS-

LEADER TIP **READ THE**

LABEL

made you decide to list tems on your maps?" If appear on some labels. determining whether or not a product can be no one mentions "the product label", then "What will help us in suggest the answer. 'signal words" that Discuss the various Ask your members hazardous? What

section 1

B

30

WORD SEARCH

complete this activity at home or at the meetindividually or in pairs. ing. It can be done Your members can

RPERTUVILM PLMCDEII (C)WRIVG LAMMABLEXPIO NGREDIENTSBOO GGHARMFULOWE AINBEWARNINGOIK SDOPKIBN OIOKMGHPOI(LABEL U U U L $S \mid V \in M(T)$ UBX(POISON)X ш × SOBNL R R O N W O H 0 ۵.

if something is safe packages tell you

SEARCH

WORD

L abels on

handle. Here is a

ist of words you might find on a

or dangerous to

them in the word label. Try to find

search puzzle!

HAZARDOUS **INGREDIENTS** HARMFUL FLAMMABLE CORROSIVE CAUTION DANGER

WARNING

POISON

TOXIC

section 1

12 section 1

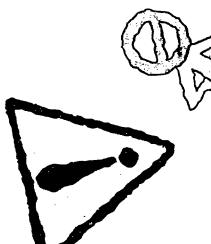
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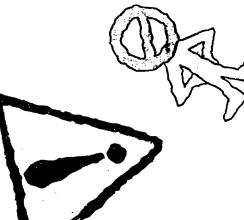


S

HAZARD STICKERS

house. It can look examples you see **D** esign a sticker effective in warnon all the hazardhere or whatever that you can put you think will be products in your ing people that these products are hazardous. ous household like any of the





ACTIVITY 4

STICKERS HAZARD

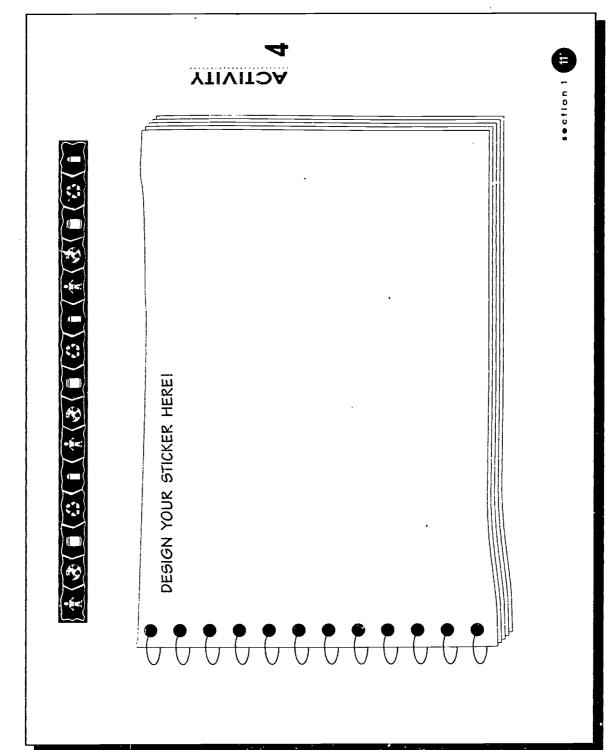
products that they have located in their home. design a sticker to be used on all potentially hazardous household Help your members





STICKERS HAZARD

design the stickers in the scissors. Have members them color them at the produce the number of photocopier, you may you have access to a consider reproducing members and letting stickers they need. If workbook or provide construction paper, Have the members the stickers for the colored pens and following meeting.







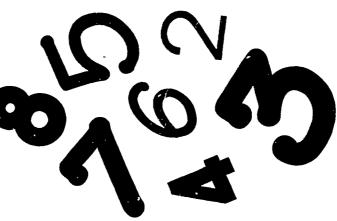


DO THE COUNT

ACTIVITY

S

your list from Activneed. Color them Tape or glue them number of houseand cut them out. products that you hold products on abels already on onto the hazardous household located. Don't the containers! Draw as many stickers as you cover up the ity 1, page 6. C ount the



ACTIVITY 5

DO THE COUNT

products each member nstruct the members to he products when they assistance of an adult. number of hazardous place the stickers on stickers equal to the listed on their maps. create a number of Tally the number of Each member can products at home. go home with the

12 section 1

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LEADER TIP

GOOD LABEL?

reading is a good idea. labels in the Members information regarding As a group, read the Manual. Encourage members why label d, : ussion among

LABEL? 0009 BAD LABEL?

 ${\sf A}$ good informative label should include the following:

- A signal word such as "danger", "warnlevel of danger. This should appear on ing" or "caution" depending on the the front label.
- "vapor-harmful", "flammable", etc. This should also appear on the front label. 2. A description of the hazard, such as
 - avoid the hazard. Example: "Use in a 3. A statement that warns users how to well ventilated area".
 - 4. A common or chemical name for the hazardous substance.
- 5. Instructions for safe use and handling.
- The name and location of the manufacturer, distributor or repacker. 6. First aid instructions: 7. The name and loca
- The statement, "Keep Out of Reach of Children", or its equivalent.







YOU BE JUDGE 里

ACTIVITY

in what's missing in should include. Fill that it should? Go examples of prodback to page 13 informátive label each label have uct labels. Does all the warnings to see what an R. eview the 2 the blanks.

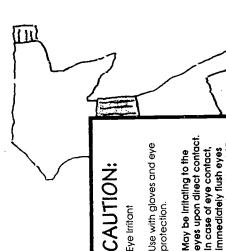
quirements. What This product label is missing iwo reare they?

- location of the manufacturer,]. Name and distributor or repacker
- reach of children" "keep out of the or its equivalent 2. Statement

ACTIVITY 6

YOU BE THE JUDGE

completing the activity. Assist your members in



May be irritating to the eyes upon direct contact. with water for at least 15 minutes. Call physiclan if swallowed. Prink a glass Use with gloves and eye protection. In case of eye contact, Immediately flush eyes full of water.

Ingredients: Water, ammonia, vinegar and coloring.



YOU BE THE JUDGE



label is missing two What are they? T his product requirements.

gloves, use in well 1. How to avoid ventilated area) hazards (wear

2. Signal word

KEEP OUT OF REACH OF CHILDREN. CAN CAUSE BURNS ON CONTACT. HARMFUL IF SWALLOWED. DANGER:

ΥΠΛΙΤΟΑ

FIRST AID: EYES: Rinse eyes milk. Do not induce vomitimmediately with water. SWALLOWED: Rinse mouth. ected clothing, flush skin Drink a glass of water or ng. SKIN: Remove afwith water.

Ingredients: Contains 1.7% sodium hydroxide and 6% sodium hypochlorite. An ACME product, ACME PRODUCTS, Acme, Anywhere 99999



section 1 (6



T. T.

ACTIVITY

LEARNED? HAVE WE WHAT

about this section. Tally your answers A nswer the following questions missed. How did and review the questions you you do?

- 1. Give three examples of hazardous household products.
- See the map on page 7 of the Members Manual and page 10 of the Leader's â ਰ
 - - Manual for examples. ં
- on labels of hazardous household products. 2. Name three examples of signal words used
- Poison Caution ਰ
- Skull & crossbones graphic Warning Danger â

Flammable

Harmful

dizziness may be signs of overexposure to haz-TRUE OR FALSE? Headaches, sleepiness and ardous chemicals. က်

True

- TRUE OR FALSE? Something is hazardous if it is toxic, flammable, corrosive or ignitable. 4
- can harm you, your pets or the environment. TRUE OR FALSE? Something is hazardous if it

Ċ.

ACTIVITY 7

REVIEW

dix A or simply use it for questions from Appencreate your own set of products, their related than one right answer for questions 1 and 2. 'quiz". There is more -or more information precautions, see Apdiscussion purposes. regarding common Help your members health hazards and pendix A. You can complete this first





SECTION

SAFE? HEALTH IS YOUR

PURPOSE

have a harmful effect on household products can Develop awareness that unsafe use of hazardous health.

OBJECTIVE

The member will be able

- 1. Describe the three ways hazardous chemicals can enter the body.
- that should be followed when using hazardous 2. Describe safety rules products.
- 3. Respond in the case of a poisoning or contact with a hazardous product.

MATERIALS

hold product, telephone balloon, sample house-Apple, glass of water, books.



SECTION

SAFE? IS YOUR HEALTH

Do The Safety Rules Routes of Exposure

Who Can Help?

should follow when chemicals. You will man body can be M any hazardous section will show using hazardous household prodyou how the huhousehold prodncorrectly. This safety rules you also learn what ucts can harm people if used affected by

LEADER TIP

page together to see what's coming up. Read this introductory









LEADER TIP

ARE YOU EXPOSED?

sprayed and ingestion if contact if it spills on the by placing an apple, a answer will depend on discussion and look for Ask the members how the body. Encourage Introduce this section product on the table. glass of water, an air each item can enter filled balloon and a skin, inhalation if it is the following underingestion; balloon = it is swallowed. The sample household inhalation; sample ingestion; water = standing (apple = product = dermal what the sample product is.)

ARE YOU EXPOSED?

C hemical exposure is what occurs when a living organism (you, a family member, or your pet)

comes in contact with a chemical.
A person cannot be affected unless the chemical is

the chemical is taken into the body. There are three ways that hazardous sub-

Inhalation (breathing)



and cause harm:

stances can get

into the body

Ingestion (eating or

drinking)

Dermal Absorption (skin contact)

81

18 section 2

5. 53

23



ACTIVITY

EFFECTS HEALTH

Assist your members in filling in the blanks.
Does the group reach consensus on the answers?

AFFECTED BY HAZARDOUS MATERIALS? WHICH WAY COULD THE BODY BE (Fill in the blanks)





YTIVITOA













Ingestion











LEADER TIP

ACUTE OR CHRONIC

Encourage discussion of chronic health effects Read the information experiences at home regarding poisonings together as a group. and accidents with regarding acute or household items.

acute effect shows E ffects of chemcals can be acute single large expoup shortly after a cal. An example would be a child opener. The subsure to a chemiamount of drain drinking a large or chronic. An ACUTE OR CHRONIC

sive to body tissue it touches - mouth health effects are away at anything face, esophagus, ide) is very corrogested, it will eat those which only sures to substanrepeated expoand can cause burns, Once inshow up affer etc. Chronic

ces. For example,

opener (called lye or sodium hydrox-

stances in drain

pesticides regularly clude lung cancer If a person sprays ally with the pesti contact continuand nervous syspesticides often contain arsenic. and comes into for many years, cide spray, the chronic health effects can intem problems.

20 section 2

S S



CTIVITY

completing the match up game. Review the definitions together.

Assist your members in

MATCH UP

ACTIVITY 2

WORD MATCH THE DEFINITION WITH THE **APPROPRIATE**

e. dermal contact

d. inhalation

b. ingestion c. chronic

a. acute

Refers to eating or drinking some-

thing

An effect caused by repeated exposures to a chemical

Absorbing chemicals through the Φ

An effect after a short term, large ۵

Breathing a chemical or hazardous exposure to a chemical σ

material into the lungs

section 2 Z





LEADER TIP

SAFETY RULES

with your members. Ask Discuss the safety rules amples of what could them to provide exgo wrong if some of them were not followed.

T he following is D0 7胎 SAFETY RULES

family follow these tions (safety rules) rules when using household produsing hazardous ucts. Does your a list of precauthat should be followed when

Read all labels carefully.

- Do not mix products. 2.6.4.6
- Use only in well ventilated areas. Keep containers tightly closed.
- Keep products away from children and pets.
- Wear protective clothing (long sleeve shirts, gloves).
- Clean up area affer use.
- Dispose of contents and/or containers n an appropriate manner
- Buy the least hazardous product (or choose a safer substitute) Avoid aerosols. <u>ö</u>
 - 11. Buy only the amount you need.
- 12. Know the number of the local poison control center.
- 13. Never put products in a different con-



22 section 2

section 2

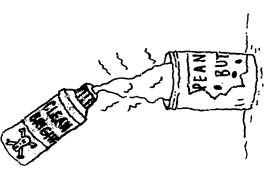


Fill in the blanks

SAFETY RULES

WHAT SAFETY RULE 19 BEING IGNORED?

(Fill in the blank below)



YTIVITOA

Never put products in a different container

section 2 (25)

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ACTIVITY 3

SAFETY RULES

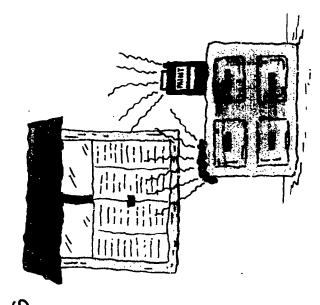
Fili in the blanks



WHAT SAFETY RULE 19 BEING IGNORED?

(Fill in the blank below)

ACTIVITY



Use only in well ventilated areas.









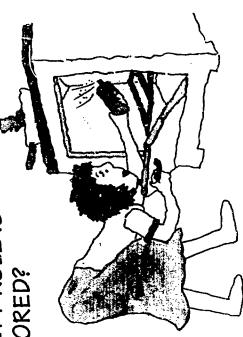
SAFETY RULES ACTIVITY 3

Fill in the blanks

YTIVITOA

WHAT SAFETY RULE 15 BEING IGNORED?

(Fill in the blank below)



Wear protective clothing (long sleeves, gloves, etc.). Avoid aerosols, especially by a heat source! section 2

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LEADER TIP

BE PREPARED

Call your local Poison Control Center and ask them sorne basic questions regarding who they are and what they do. Also, ask Center Personnel the questions on page 28 of the Members Manual. Document their telephone numbers (one for information, one for emergencies).

WHEN IT COMES TO HOUSEHOLD HAZARDOUS PRODUCTS, BE PREPARED

current information lem is at your local stances. The most partment. Look in emergency when on how to handle or the telephone this kind of probelephone book ocal Health Depeen injured by he front of your nazardous sub-Poison Control Center or your Someday you someone has **G** et ready! may be in an

hospitals. They are ment and preven-Centers are often bers for emergenanswer questions about hazardous tion. They usually cies and general poisoning, treatinside your local relephone numsubstances and staffed with experts who can Poison Control have different questions,



section 2

numbers.



EMERGENCY!

YTIVITOA

W hat is the emergency telephone where household local Poison Control Center? Post this number near number for your your telephone and in areas products are

Fill in the phone #



LEADER TIP

EMERGENCYI

locate the correct telephone numbers in Help your members the white pages.







7.



CONTROL **CENTER** POISON

member at the meeting speaker or a tour of the tions by contacting the Poison Control Center. Poison Control Center If not, have members complete the 4 ques-Control Center guest You may wish to arhome or elect one range for a Poison by telephone from

ABOUT FIND OUT

YOUR

ACTIVITY

LOCAL

CONTROL

POISON

CENTER

call the local Poison Control Center. Do the U SING THE NON-EMERGENCY NUMBER, following...

- 1. Identify yourself and what youth group you belong to.
- someone comes in contact with hazard-2: Ask what steps should be followed if ous chemicals.
- 3. Ask what should be included in a home first-aid kit that could help in an emergency with hazardous products.
- 4. Thank the person for their time and information.







WHAT'S WRONG WITH THESE PICTURES?

The next three pages will show you situations that are potentially dangerous. Fill in the blanks below each picture. Describe what can go wrong. What is hazardous in each picture?

ACTIVITY 6

WHAT'S WRON*G*?

Complete this activity as a group and encourage discussion about what can go wrong (and what is hazardous) in each scenario.

YTIVITOA



1.5 1.5

> ~1 ~1





WHAT'S WRON*G*?



ACTIVITY

An aerosol can may

#1

explode if near a heaf

source. This can cause

injury to anyone close by.

30 section 2

9%



WHAT'S WRON*G*?

#2

Antifreeze is very sweet

smelling and a pet will

YTIVITOA

drink it if possible. This

can kill a small pet.

soction 2 (31



WHAT'S WRON*G*?



ACTIVITY

One should never mix

#3

chemicals because they

might be incompatible.

They could explode,

cause an invisible gas or

produce a deadly odor.





ERIC Full Tax t Provided by ERIC



COMPLETE THE CROSSWORD!

1. To breathe is also known as this 2. An organization that can ACROSS

give you information about poisons A substance in drain cleaner

household products are often A place where hazardous

A possible health effect of rug cleaners

1. Eating or drinking is also DOWN

²p o i s o A type of effect that Skin contact is also known as this called this

Numerous, repeated exposures shows up shortly after a single, large exposure

4

can result in these kinds of effects Number one safety rule when using household products Ġ

						0							
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•						е		ŋ			۵		
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_

ACTIVITY 7

COMPLETE THE CROSSWORD

home; do it as a group effort or make it a plete the crossword at Have members comcontest.

CTIVITY



section 2



THE CROSS-COMPLETE WORD

Depending on the age of your members, let them use these words to fill in the blanks.



开 **WORDS FOR** USE THESE CROSSWORD PUZZLE:

dermal absorption garage inhalation ingestion anemia chronic acnte

poison control center read the label



34 section 2

. က



SECTION



Develop ounsafe die

TO THROW OR NOT TO THROW?

PURP0SE

Develop awareness that unsafe disposal of hazardous household products may adversely affect the environment.

OBJECTIVE

The member will be able to:

- 1. Describe common disposal methods.
- 2. Describe associated problems with disposal methods.
- Implement techniques to lessen what we throw away.
- 4. Identify agencies and organizations that deal with hazardous household products.

MATERIALS

Telephone books, glue, tape, magazines, newspapers, scissors, pens, pencils.

See page 41 for ideas on demonstations. These are optional materials.



Read this introductory page as a group to see what this section is about.



SECTION (C)

TO THROW OR NOT TO THROW?

Disposal Methods

The Three R's



rect disposal methhappen with these to get rid of it or to pose of hazardous something means environment. This correct and incorand, what group. products unsafely This can hurt both disposal methods, Some people disnumans and the exist to help you with these issues. o dispose of section will help you understand throw it away. ods, what can





DISPOSAL METHODS DEMONSTRA-TIONS

This section describes a variety of disposal methods for getting rid of waste. Members will learn about the effect these methods can have on both the environment and people.

After reading the following pages, ask the members to name some methods for disposing of household trash. Then, provide demonstrations for some of the disposal methods. Suggestions are:

BURIAL: Put sand, gravel or dirt in a strainer. Place the strainer over a jar. Pour colored water onto the material. Have the members note what happens.

BURNING: Place a small amount of nail polish on foil or in a bowl. Light a match to it carefully. Ensure that all members are at a safe distance. Have members note any reaction and odor.

storing items: Place a cotton ball in colored water. Squeeze the cotton ball onto your skin or a member's skin (arm, wrist, hand, etc.) Have the members note what happens.

Provide any other examples that you are comfortable with. Encourage discussion in each case regarding "what would the scenario mean if hazardous products were involved?"





METHODS DISPOSAL

provides more introduc-Page 36 of the Members Manual simply

EFFECTS COMMON **DISPOSAL METHODS** AND THEIR DAMAGING

harm the environstorm drain. All of the trash, burning durnping it down dispose of waste the sink, toilet or by throwing it in P eople often can sometimes hese methods it, stering it, or

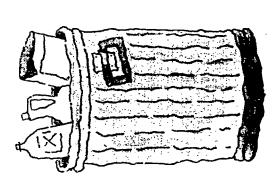
various methods of possible dangers disposal and the pages describe people and the The following environment. they pose to





35





IN THE TRASH

cause burning or blindness. Reactive prodplaces have been injured in the same way. collected the trash. Sometimes items such ucts have resulted in fumes that sent workas pool chemicals splash in their eyes and ers to the hospital. Garbage usually goes **G** arbage collectors have been injured by household products when they have to landfills or dumps. Workers at these



in a hole in the ground can sink into the soil and cause both soil and groundwater to ${m P}$ roducts dumped on weeds or buried be contaminated (dirtied).



LEADER TIP

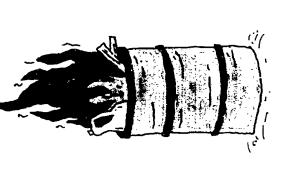
METHODS DISPOSAL COMMON

Ask your members "Why are we concerned with and their ramifications. each disposal method these disposal meth-As a group, discuss ods?" You are hoping to solicit humans if done incor-"because each can a response similar to: environment and to cause harm to the

S S





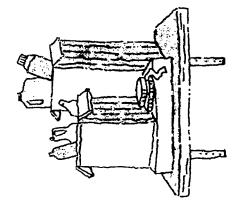


BURNING

sometimes result in air pollution. Many items are explosive and there are many stories of people being injured when they burn their known as incineration. Incineration can $oldsymbol{B}$ urning products or wastes is also garbage.

STORING ITEMS

an invitation to an accident. Small children can be exposed to the products. Firefighthousehold products when responding to **5** toring products indefinitely can be ers have been injured by a variety of



96

section 3



DOWN THE SINK OR **701.ET**

something down a sink or flush it down collect waste from each house, hotel, ground pipes that sewer or to a sepstore, office build-W hen you pour the toilet, the water and the prodsewers are a systic system. The tem of underuct go to the

together into huge pipes at a sewage treatment plant. ing and factory. They bring it all

large underground fields where water In both cases, the If your house is not has a septic tank. A septic tank is a tainer hooked to drains. It is like a treatment plant. sewer system, it hooked up to a waste is broken concrete consmall sewage

connecting waterisms are killed and system, the organorganisms. If polfield, into groundthen get into the lutants enter the main. They can posed) by small soil in the drainwater and into down (decomthe hazardous substances reways.



section 3 59





INTO A STORM DRAIN

hooked up to pipes that go to creeks, rivers on a driveway can go with the rain or sprinand lakes. In some areas, the pipes join up kler water into the drain. Storm drains are with the sanitary sewage pipes and go to rain; that runs into the drain. Anything that is poured into a gutter, into a backyard or grate is a catch basin which catches the sides or curbs of streets. Underneath the ${f A}$ storm drain is the metal grate at the the sewage treatment plant.



section 3







TIME QUIZ

ardous household A nswer the following questions concerning hazproducts:

1. Who can become injured if you throw your hazardous household products in the trash before they are Garbage collectors and workers at landfills empty?

YTIVITOA

2. Where do hazardous chemicals go if they are buried in the ground?

Into the soil and groundwafer

3. What is sometimes caused by burning products that contain hazardous substances?

Air pollution and explosions

stored for a long period of time in the garage or on 4. Who might be in danger if household products are storage shelves?

Small children and firefighters

5. Where does anything go if you pour it down the sink, flush it down the toilet or put it in a storm drain?

To the sewers or to a septic system and to creeks, rivers, lakes

ACTIVITY

QUIZ TIME

group if your members correct the quiz as a Have your members during a meeting or complete them at complete the quiz





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section 3





THE THREE R'S

ronment and people. The esources and energy. In addition, the items in the frash can harm the enviwaste issue is a problem implementing the Three that we can all solve by throwing away natural reuse, reduce, and regood news is that the When we throw away frash, we are typically R's! The three R's are:

purposes instead of throw-We can reuse empty food resources and the reducing them away. We can tion of waste. Things do cessed and recycled in order to be used again. conservation of natural not have to be repro-**REUSE** promotes the containers for other

original containers (paints, fertilizers, cleaners, hobby them to local community euse unused or partially supplies, etc.) by giving nesses or to others who used products in their groups, schools, busimay use them.

general household cleangained by buying a larger REDUCING the amount of ers can effectively clean Buy only the amount you neadache of later prop-Avoid buying a different saves landfill space and product for every single problem. One or a few size will be offset by the a multitude of surfaces. disposal problems. We creates less associated kind of dirt or cleaning can all reduce waste. waste one generates need. Any savings erly disposing of it.

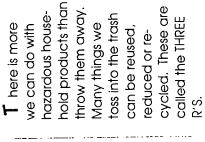
waste more energy than is wastes as much energy as filled with gasoline. Failing num, etc.) and hazardous num uses 90 to 95 percent tems (paper, glass, alumiused daily by one person num beverage container of the Washington Post or num from recycled alumi fhrowing away an alumio recycle a daily edition condon Times wastes just drinks per day and fail to as much. Making alumiess energy than making people who live like this **RECYCLING** is a sensible can recycle solid waste oouring out a can halfin a poorer land! There aluminum from bauxite tems (batteries, paints, are close to one billion sources go further. We aluminum cans of soft recycle the cans, you automotive oils, etc.) ore. If you drink two way to make our re-







THE THREE R'S



REUSE

Give the leftover pesticides or paint to a school or church; they will use it up safely and then throw the can away.

REDUCE

Use fewer hazardous household products. A general household cleaner can work in many places. You don't need a different cleaner for each kind of dirt or cleaning problem.

RECYCLE

Help your family recycle used motor oil, brake and transmission fluids, water-based latex paints and car batteries, in addition to your other recyclables (newspapers, aluminum, glass, plastic and cardboard).

LEADER TIP

THE THREE R'S

Read this information together as a group. Ask each member to provide an example of one "R" that they can implement.



42 section 3



DO SOME ART

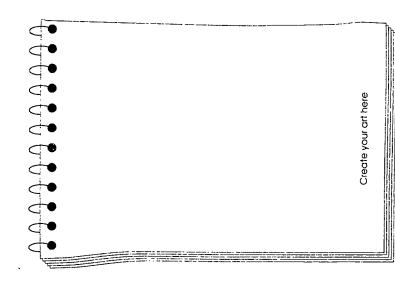
Encourage some creative design from your members about the Three R's. Members can design in their workbooks or on materials that you provide.



DO SOME

YTIVITOA

M ake a poster, bumper sticker or cartoon about the THREE R'S. At your next group meeting, share it with other members. Share it with your family.



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section 3 45



RECYCLE YOUR TRASH

ACTIVITY

M any communities have recycling centers for common solid waste items (newspaper, aluminum cans, glass, plastic bottles and cardboard). Some of these recycling centers will also accept housenold hazardous waste

that you need to get rid of. Your activity: call your local recycling center and ask them what items will they accept? List items here:

ACTIVITY 3

RECYCLE YOUR TRASH

As the Leader, you should complete Activity 3 before the meeting. Obtain as much information as possible regarding what items are accepted by which entity. Solid waste is often accepted at your local college, grocery store or by civic groups. Household hazardous wastes are not collected as frequently or in as many locations.



COLLECTION DAYS

Ask your members if any of them have participated in a household hazardous waste collection day. Discuss what they do with their waste currently.

COLLECTION DAYS

usually work for the up collection days that you no longer who are trained in staffed by people als. These people places are usually hazardous materi-HOUSEHOLD HAZmunities have set those hazardous These are called or places just for household items fire department, **ARDOUS WASTE** EVENTS, These **S** ome comwant or need. COLLECTION

the health department, the public works department or another agency.



section 3 47



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LET YOUR DO SOME WALKING FINGERS

ACTIVIT

Sovernment secbook. Go to the vour telephone ion in the front. O pen up the white pages of ook under

tion events. If they in your community who does do that Write their answer ous waste collecsay no, ask them

call the office and mal business hours

ask them if the health depart-

MENT. During nor-

COUNTY and find

he listing for the HEALTH DEPART- household hazard-

ment manages

ACTIVITY 4

DO SOME LET YOUR WALKING FINGERS

for what your members numbers that you think Record all telephone pages and get a feel pertain to hazardous Refer to your white are encountering. substances.

cuss the questions they will ask Health personthe local listings in the telephone book. Dismembers how to find Demonstrate to your

ndividually) discuss the tion of Activity 4 (either What have your mem-Following the compleat the meeting as a responses received. group, or at home bers discovered?



Here come helpful telephone numbers of State agencies that deal with waste:

• CALIFORNIA DEPART-MENT OF HEALTH SERVICES, TOXIC SUBSTANCES CON-TROL PROGRAM, GENERAL INFORMATION:

(916) 324-1826

This telephone number is good for questions regarding hazardous waste.

• CALIFORNIA DEPART-MENT OF HEALTH SERVICES, WASTE ALERT HOTLINE

I-800-25TOXIC

This telephone number is good to report violations.

• CALIFORNIA DEPART-MENT OF HEALTH SERVICES, HAZARDOUS PRODUCT LINE Use this telephone number to receive information on hazardous products.

1-800-334-1697

 CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD RECYCLING HOTLINE 1-800-553-2962

Use this telephone number to find the local telephone number for the agency conducting Household Hazardous Waste Collection days in your area.





POLLUTION PREVENT

that are washed from cars often ends up in storm drains and then in streams and rivers. Pesticides are often washed off from farmers' fields. Waste water from industries is $oldsymbol{0}$ ur land and our water becomes polluted in many ways. The oil and grease sometimes discharged cirectly into streams.

CIIVITY

Knowing this, try to answer the following questions:

- 1. If there was an oil leak from a car in your To the gutter and then to the storm drain. From the storm drain the oil could cause water pollution as it travels in streams and rivers. driveway, where would the oil go?
- birds and other wildlife going to be in-If there is an oil spill in the ocean, are ured or die? a

killed when oil seeps into eggs, fish suffocate marine and land animals die from ingesting YES. Feathers are damaged, embryos are because their gills become clogged, and lood and water contaminated by oil

ACTIVITY 5

POLLUTION PREVENT

chance for members to between things we rely oil) and environmental This activity serves as a make the connection on (automobiles and collution.

problem. Our air, water Automobiles, factories, fields all contribute to Environmental degraand land is polluted nouses, barbeques, rom many sources. mines, and farming dation is a serious collution.

hydrocarbons, lead and tanker is processed and Automotive oil contains fammable and can be enginewear. It is highly toxic. Crude oil on a used to make many other metals from









SCRAPBOOK

scrapbook. Include the with Activity 6, prepare To assist your members a sample page of a one sentence statement describing the problem and the correct disposal method.

ACTIVITY

MAKE A HAZARDOUS **SCRAPBOOK**

terials. Paste them comics that relate and in magazines. Cut out the headto hazardous ma-L ook for newsyour local paper paper articles in lines, photos or

on the scrapbook

pages.

Below each article should have been tence about the correct disposal write one senmethod that

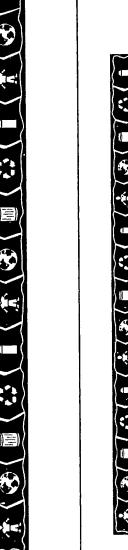
50 section 3

400

section 3

1,23





ACTIVITY 6

HAZARDOUS SCRAPBOOK ITEMS

scrapbooks, discussing

members found and

possible solutions.

the problems that

Spend a good portion

SCRAPBOOK

of a meeting sharing

ACTIVITY

that regulates waste to sonnel from an Agency Consider inviting pera meeting to discuss some of the local scrapbook items.

Don't forget to add the disposal information!

section 3 (5)



WHAT HAVE WE LEARNED?

Complete the "quiz" as There is more than one a group or individually. correct answer to question 3.

WHAT

LEARNED? HAVE WE

 $oldsymbol{\mathsf{A}}$ nswer the following questions about this section.

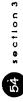
household products down the toilet is a 1. TRUE OR FALSE? Dumping hazardous correct disposal method.

2. Name the THREE R's that can lessen the disposal problem.

Reuse, Reduce, Recycle

a household hazardous waste collection 3. Name three items that can be taken to event.

Aerosols, batteries, medicines, cleaning products, paints, automotive products, fertilizers, pesticides 4. TRUE OR FALSE? You can do something about the hazardous waste problem.





section 3



SECTION

4

SAFER

ALTERNATIVES

PURPOSE

Develop knowledge of safer alternatives to hazardous products.

OBJECTIVE

The member will be able to:

- Name substitutes of commonly used household items.
- Compare the benefits of products and their substitutes.

MATERIALS

Magazines, scissors, paper, tape, glue, pens, markers.

Optional: Safer substitutes and common household products.





ALTERNATIVES SAFER

Read this introductory page together as a group.

SECTION

SAFER **ALTERNATIVES** TO HAZARDOUS **PRODUCTS** HOUSEHOLD

Compare And Contrast

used in your houseeasily they can be M ost people are suggested alternaootentially hazard ous products. This section will show you some of the alternatives that can be used in place of many ives, and how there are safer unaware that









ALTERNATIVES HAZARDOUS

have with your members. describe safer substitutes The four following pages share any other recomproducts. Feel free to mendations you may for some household

household products. When chemicals in them are not Of course, some common typically save you money, may contain sulfuric acid There are many effective alternatives to hazardous protect the environment. protect your health and used, these atternatives example, a car battery which can cause burns items with hazardous easily replaced. For

may change over time but posed to for a long period of time. There is no known we can all reduce our use freeze, and motor oil). This substitute yet (transmission products have no known Many of the automotive of the products that do and brake fluids, antiand worse things if exhave safer substitutes alternative currently. available! section 4



NON-HAZARDOUS ALTERNATIVES

some household toxics. Generally, the products he following is a list of safer substitutes for can be bought in grocery stores.

Aerosol Sprays

- Aerosois should not be used at all!
- Use non-aerosol, pump-type sprays.

Ant Control

- Sprinkle cream of tartar in front of the ants path. substance used in baking. Look in the kitchen Ants will not cross over. Cream of tartar is a cupboard.
 - Try red chili pepper, salt, dried mint or sage in the ant's path.
- Mix 1 tablespoon borax, 1 tablespoon sugar and cottonballs on low lids or something flat. Put the 2 tablespoons of water to make a thick syrup. Soak cottonballs in the mixture and put the lids in the middle of the ant colony.

- Place screens on windows and doors.
- Brewers yeast tablets taken daily give the skin a scent that mosquitoes seem to avoid.





56 section 4



NON-HAZARDOUS ALTERNATIVES

Chemical Fertilizers

- Compost.
 - Mulch.
- Dried coffee grounds, bone meal and wood ashes.

Copper Cleaner

Pour vinegar and salt over copper and rub.

Deodorizers / Air Fresheners

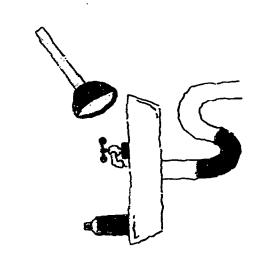
- Simmer cinnamon and cloves.
 - Set out a dish of hot vinegar.
 - Burn scented candles.
- Baking soda is good for odors in the refrigerator, cat box, drains and ash trays.

Detergents (Laundry and Dishwashing)

- For dishes, use baking soda and liquid soap.
- For laundry, use borax, washing soda or liquid

Drain Openers

- Pour boiling water down the drain. Do this every week for preventive maintenance.
 - Use a plumber's helper (plunger) or a plumber's











NON-HAZARDOUS ALTERNATIVES

Flea Repellant

- Feed pets brewer's yeast, vitamin B or garlic tablets (not a lot!)
- Use eucalyptus leaves and seeds around the pet's bed.

Furniture Polish

- Mix lemon juice and vegetable oil.
- Mix vegetable oil and white vinegar.

Glass and Window Cleaners

- Use cornstarch and water.
- Mix 1/2 cup vinegar and one quart warm water. Wipe with newspapers.
 - Use lemon juice and dry with a soft cloth.

Oven Cleaners

- Mix 3 tablespoons of washing soda with one quart of warm water.
 - Place liners in oven to catch any drips during
- baking.

 Sprinkle salt on spills when they are warm and then scrub.
- Rub spills gently with steel wool.







ERIC

NON-HAZARDOUS ALTERNATIVES

Oil or Solvent Based Paint

 Water based paints are less toxic than oil or solvent based. After using them, no solvent is necessary for "cleanup".

Rat and Mouse Poison

Use mechanical snap mousetraps.

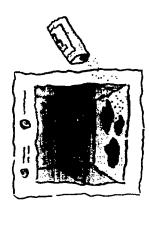
Rug and Upholstery Cleaners
• For spills, clean with club soda and clean cloth.

Scouring Powders (Abrasive Cleaners)

- Use baking soda or borax with a damp cloth.
 Scrub area with 1/2 lemon dipped in borax.

Snail / Slug Bait

- Place a shallow pan with beer in the infested
- Overturn claypots. The snails will take shelter in them during the sunny days and they can be collected and removed.









COMPARE AND CONTRAST

ing. You might consider cleaner to vinegar and experiment at a meetsalt; or potpourri to air conduct activity 1 at Have your members comparing copper home or set up the freshener.

COMPARE AND

CONTRAST

ACTIVITY

common products are: glass cleaner, snail bait, furniture tutes to a product typically uses. Exn this activity, pare safer substiamples of these polish and drain you get to comyour household

Pick two products that are normally used in your house. Find their safer substitute(s) on pages 56 - 59.

Ask an adult for permission to use the alternatives for 2 weeks. Complete the charts for the two products you selected. Fill in the blanks on pages 61 and 62.

You will be keeping track of:

- 1. Which product worked better (how efficient was it at doing its job)?
- 3. How easy is it to find the products in 2. The cost of each product.
- 4. How are the products disposed?



60 section 4



COMPARE AND CONTRAST CHART

Safety Tips: Use gloves, use ventilated orea, don't mis with anc, ner cleaner!	Safety venti
(Circle one) Very Moderate Not at all	(Circle o

Safety Tips: Use gloves, use in ventilated area, don't mix with anc.ner cleaner!

How do you dispose of it?

Use it all or dispose at collection event.

SAFE SUBSTITUTE

ng Soda	34¢
Baking	(*)
Product:	Cost:

YTIVITOA

Where was it bought?

Supermarket

How efficient was it? (Circle one)

Very Moderate Safety Tips:

Not at all

None

How do you dispose of it?

No limitations

ACTIVITY 1

COMPARE AND CONTRAST

If members complete the activity at the meeting, help them do a demonstration of the two products for the group. Make sure members fill in the blanks on the charts.





COMPARE AND CONTRAST

member learned while if members complete the activity at home, comparing products. sharing what each spend a meeting

COMPARE AND CONTRAST CHART

ACTIVITY

Product: Copper Cleaner TYPICAL PRODUCT \$3.27 Cost:

Where was it bought? Supermarket

How efficient was it? (Circle one)

Moderate Not at all Very

Use gloves Safety Tips:

How do you dispose of it? Use it all or dispose at collection event.

SAFE SUBSTITUTE

Product: Sait & Vinegar

69¢, 89¢ Cost:

Where was it bought? Supermarket

How efficient was it? (Circle one)

<u>Very</u> Moderate Not at all Safety Tips:

None

How do you dispose of it? No limitations

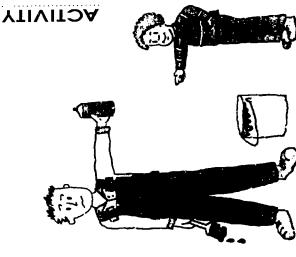




ERIC Full Box Provided by ERIC

SHOW OFF YOUR **SMARTS**

pare and Contrast switch to the safer 5 how the Comthey are willing to son who normally Chart to the peruses that potenhousehold product. Ask them if tially hazardous substitute.



ACTIVITY 2

YOUR SMARTS SHOW OFF

Ask members to discuss siblings what life would ticular product. Is the with their parents and family willing to make be like without a parthe switch?





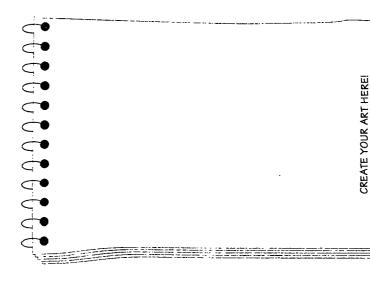
CUT AND PASTE

them. Assist your members in making collages. Let them be Provide magazines and newspapers and/or have members bring creative

CUT AND PASTE

ACTIVITY

ucts and their safer **M** ake a collage of common prodalternatives. Use newspapers and magazines and your own drawpictures from





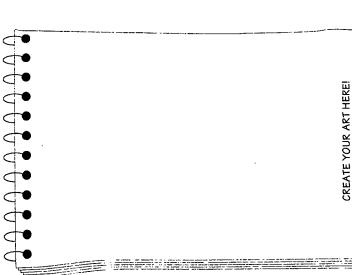


MEDIA STAR

ACTIVIT

vision station, radio **P** retend you are zine. Write or draw for a safer alternaan advertisement working for a telestation or maga-





ACTIVITY 4

MEDIA STAR

people because we use advertising influences us think we will be happy if we buy the product, or Bring in advertisements Discuss with your memall. Ads often make us of common products. bers the fact that we will be better Brand X.

ments, ask the members before you bought the product?" being sold? Are there Using some advertisewritten? What idea is without it? What else about this ad? Is this something you really need? Can you live facts in this ad? Are would you consider there facts missing? What is appealing "Why was this ad

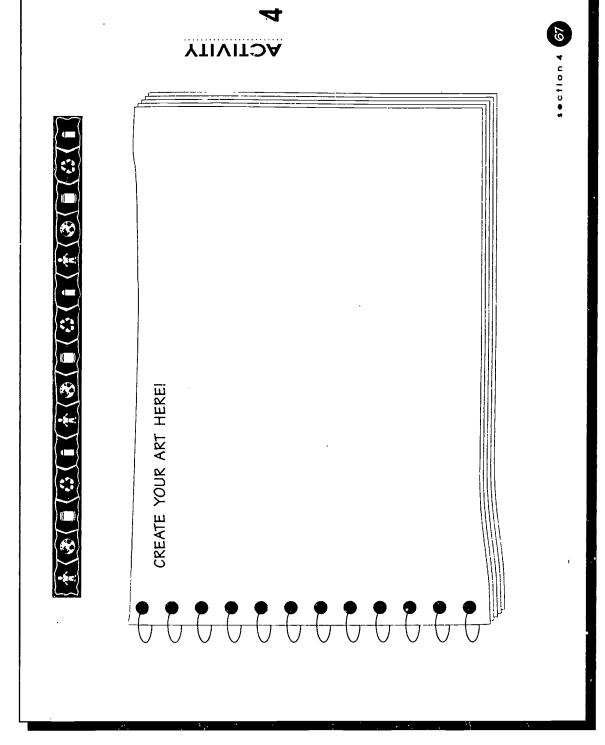




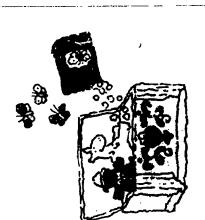
MEDIA STAR

Have members create their own advertisement for a safer substitute. Groups may want to develop a television or radio ad that they perform or a magazine or billboard ad that they they draw.

Discuss what tactics each used in trying to sell their product. Did anybody leave information out or include exaggerations?



CHECK YOUR HOUSEHOLD PRODUCT IQ **HAZARDOUS**



 $oldsymbol{\mathsf{A}}$ nswer the following questions about safer substitutes:

List two household products and their safer substitutes.

YTIVITOA

Ant spray

Cream of tartar

Vinegar and salt

Copper cleaner

TRUE OR FALSE? Brewers yeast can take the place of bug spray. ci

3. A clogged drain can be cleaned with

or a Plumber's helper **Boiling water**

TRUE OR FALSE? Safer substitutes have less of a chance to harm you or the environment. 4

ACTIVITY 5

CHECK YOUR

simply verify the answers more than one correct answer in some cases. home. Again, there is through Activity 5 or completed them at as a group if they Guide members



WORD MAZE

where each word in the maze has to be defined plete the word maze at then having a contest Have members comor an example given. meeting. Consider making it a race and home or do it at the

WORD HUNT

in the maze. They F ind the words may be in any direction.

ACTIVITY

ALTERNATIVE BIODEGRADABLE WASHING SODA COMPARISON **PRODUCT** VINEGAR DISPOSAL CHOICE SAFER COST

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70 section 4



SECTION

WHAT DO YOU KNOW?

Your members have now learned what hazardous products are, how they can impact both health and the environment and what safer alternatives exist. To translate this awareness into action, consider furthering the unit with the following activities:

1. Produce a newsletter; this can range from handwritten booklets to professionally laid-out brochures. Have students share what they have learned, describe issues they are concerned about, encourage community action

- or elaborate on activities from the workbook.
- 2. Conduct a survey in the community regarding a "hazardous" issue; i.e. hazardous waste sites, recycling centers, household hazardous waste collection centers, how people feel about "toxics."
- 3. Start a letter writing campaign on an issue they have covered while conducting activities in the handbook (i.e. there is no place to take household hazardous products in your community).

- Organize a community parade with a waste reduction theme.
- 5. Throw a "Three R" carnival with games and booths that promote the theme of reduce, reuse, and recycle.
- 6. Encourage older members to instruct younger members in this topic.
 The older members can take this workbook into other clubs, churches and/or after-school programs.



LEADER TIP

EVALUATE YOUR EXPERTISE

This last section is a summary of objectives in sections one through four.

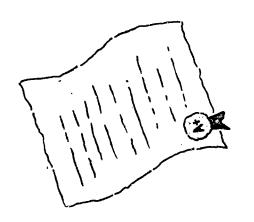
SECTION SPECTION

EVALUATE YOUR EXPERTISE

Y ou have now toured your home, the garage, and other storage areas and become acquainted with hazardous items. You know that hazardous substances can harm you, your pets, and your environment. To prevent such injury you must use, store

and dispose of the items safely. You have also seen some safer substitutes that you can use if you decide to make the switch.

Complete the last set of activities and be safe with hazardous household products in the future!



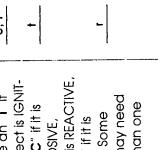


HOW IS IT HAZARDOUS

ACTIVITY

"R" if it is REACTIVE, the object is IGNIT-Place an "L" if tems may need more than one ABLE, "C" if it is TOXIC, Some and "T" if it is CORROSIVE,





medication

unused drugs and

car battery



ACTIVITY

HAZARDOUS HOW IS IT

freat activity 1 as a quiz and discuss each answer.





ammonia

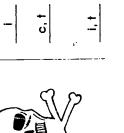
chlorine

and

together

mixed

hair spray



scouring powders





72 section 5

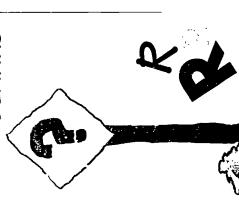


FILL IN THE BLANKS



FILL IN

BLANKS



Materials that can cause harm to you or the environment are

Hazardous

2

YTIVITOA

The three "R"s are

Reduce

Reuse

Recycle

s ection 5 (75)

167



ACTIVITY 3

FILL IN THE BLANKS

How can hazardous waste be safely disposed? FIL N

At a household hazardous waste

collection event

BLANKS

ACTIVITY

Name three advantages of using safer substitutes.

Save money

Protect human health

Protect the environment



YOUR LAST QUIZ



YOUR LAST QUIZ



Match the correct word with the definition.

- a. reactive
- b. poison control centers

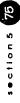
ACTIVITY

- c. incineration
- d. dispose
- e. recycle
- - To throw something away To burn something

Processing used material into

Φ

- questions about hazardous sub-Facilities with experts to answer new products Ω
- explode, or give off dangerous Something that can catch fire, stances fumes ٥



HOUSEHOLD PRODUCTS APPENDIX A

PRODUCT TYPE

POSSIBLE INGREDIENTS

**Petroleum Solvents

Asphalt/Roofing Tar

Batteries

Bleach

(in mercury batteries) Mercuric oxide

Sodium hypochlorite

Disinfectants

Sodium hypochlorite

Ammonia

Phenol

Sodium or potassium

Hydrochloric acid

hydroxide

Trichloroethane

Drain Cleaner

Flea Powder

Floor Cleaner/Wax

POTENTIAL HAZARDS

Associated with skin and lung cancer; irritant to skin, eyes, nose, lungs; entry into lung may cause fatal pulmonary edema (excess fluid in lung tissues).

Ingestion may be fatal.

cause pulmonary edema or vomiting and coma if ingested; contact with other chemicals may cause chlorine or chlora-Corrosive. Irritates or burns skin, eyes, respiratory tract; may

cause pulmonary edema or vomiting and coma if ingested. Corrosive. Irritates or burns skin, eyes, respiratory tract; may Flammable; very toxic; respiratory, circulatory or cardiac damage.

Vapor irritating to eyes, respiratory tract and skin; possible chronic irritation. Caustic; irritant; inhibits reflexes; burns to skin, eyes; poisonous Corrosive, irritant; damage to kidney, liver and digestive if swallowed due to severe fissue damage.

Irritant to nose and eyes; central nervous system depression; iver and kidney damage if ingested. Very toxic; interferes with human nervous system; may cause Skin irritation; may damage liver, kidney, spleen and central skin respiratory system, cardiovascular system damage. nervous system.

Very slow biodegradation; accumulates in food chain; may damage eyes, lungs, liver, kidneys and skin.

> chlorinated hydrocarbons *Chlordane and other

Dichlorophene

Carbaryl

Diethylene Glycol

Toxic; causes central nervous system depression and kidney, liver lesions. appendix a

A-1

HOUSEHOLD PRODUCTS

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LE INGREDIENTS

POTENTIAL HAZARDS

Floor Cleaner/Wax PRODU

**Petroleum Solvents

Ammonia

chronic irritation.

Highly flammable; associated with skin, eyes, nose, throat, Vapor irritation to eyes, respiratory tract and skin; possible

Furniture Polish

**Petroleum distillates or Mineral spirits

Highly flammable; moderately toxic; associated with lung cancer; irritant to skin, eyes, nose, throat, lungs; entry into lungs may cause pulmonary edema.

지

**Glycols

**Alcohols

Volatile and flammable; methanol is very toxic if swallowed;

eye, nose and throat irritation.

Highly flammable.

Toxic; poison by skin absorption, ingestion and sometimes

nhalation; eye irritant; stupors; kidney damage; anemia.

*Glycol ethers

**Petroleum solvents

Metal Polish

Oxalic acid

Highly flammable; associated with lung and skin cancer; irritant to skin, eyes, nose, throat, lungs.

Potential damage to respiratory system, lungs, skin, kidneys, skin and eye irritant.

Mothballs

hydrocarbons (dichloro-**Chlorinated aromatic Napthalene benzene)

Flammable; accumulate in the food chain; vapor irritating to skin, eyes, throat; dichlorobenzene is a suspected carcino-

Possible damage to eyes, blood, liver, kidneys, skin, central nervous system; suspected carcinogen.

Nail Polish

**Aromatic hydrocarbon solvents

Acetone

Ethyl and butyl acetate

Flammable; very toxic; skin contact may cause irritation to Moderately toxic; flammable; may cause respiratory ailchemical pneumonitis (lung inflammation); may cause kidney, liver, blood, central nervous system damage.

Oven Cleaner

Sodium or potassium hydroxide (lye)

Caustic; irritant, inhibits reflexes, burns to skin, eyes; poisonous if swallowed due to severe tissue damage.

Moderately toxic; may cause central nervous system depres-

sion, damage to eyes, skin, respiratory system.

HOUSEHOLD PRODUCTS

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SIBLE INGREDIENTS

POTENTIAL HAZARDS

Paint Thinner PROD

"Chlorinated allphatic hydrocarbons **Esters

**Chloringted aromatic ** Alcohols

hydrocarbons **Ketones

**Aromatic hydrocarbon Mineral spirits thinners

Paints

Trichloroethylene

Septic Tank Cleaners

Methylene chloride

Denatured ethanol or Phosphoric acid sopropanol

Silver Cleaner and Polish

Ammonium hydroxide Perchlorethylene or trichloroethane

Spot Removers

Sodium hypochlorite

oxalate or hypochloric Sodium acid sulfate or Chlorinated phenois acid

Toilet Bowl Cleaners

Slow decomposition; liver and kidney damage.

Toxicity varies with specific chemical; causes eye, nose and throat irritation.

Volatile and flammable; eye, nose and throat irritation. Flammable; toxic; accumulate in food chain. Flammable; toxicity varies with specific chemical; may cause respiratory ailments.

Flammable; skin irritant; benzene is a carcinogen; possible Highly flammable; skin, eye, nose, throat, lung irritant; very liver and kidney damage.

high air concentrations may cause unconsciousness, death.

Slow decomposition; known animal carcinogen; kidney, liver and spleen damage.

Slow decomposition; liver and kidney damage.

Moderately toxic; central nervous system depressant.

Corrosive; irritant; possible damage to kidney, liver and digestive system.

Corrosive; vapor extremely irritable to skin, eyes and respira-Slow decomposition; liver and kidney damage; perchlorethylene is a suspected carcinogen. tory passages; ingestion causes tissue burns.

Corrosive; irritates skin, eyes, respiratory tract; may cause pulmonary edema and skin barns. Corrosive; burns from skin contact or inhalation. Ingestion may be fatal.

Flammable; very toxic; respiratory, circulatory or cardiac damage.



HOUSEHOLD PRODUCTS

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E INGREDIENTS

POTENTIAL HAZARDS

PRODUCT TYPE

**Chlorinated Aliphatic solvents

Slow decomposition; liver and kidney damage.

Water Proofers

**Aliphatic and aromatic hydrocarbon solvents

Flammable; irritant; central nervous system depression; possible liver, kidney, spleen damage.

Window Cleaners

Diethylene glycol

Ammonia

Toxic; causes central nervous system depression and degenerative lesions in liver and kidneys.

erative tesions in liver and klaneys. Vapor irritating to eyes, respiratory tract and skin; possible chronic irritation.

Wood Preservatives

**Chlorinated aromatic Flammable; toxic; accumulate in food chain.

Mineral Spirits

Pentachlorophenol may be very toxic by ingestion or skin absorption.

Irritates skin, eyes, throat; absorbed through skin; damages liver, kidneys, and nervous system.

Wood Putty

Pentachlorophenol
.
Ketones

Toluene

Flammable; may cause respiratory ailments. Flammable; very toxic; may cause skin, kidney, liver, central

nervous system damage; suspected carcinogen.

irritant to skin, eyes, nose, throat, lungs; entry into lungs may cause fatal pulmonary edema.

Highly flammable; associated with skin and lung cancer;

Flammable; damage to eyes, skin, central nervous system. Flammable; carcinogen; accumulates in fat, bone marrow, liver tissues.

Lead

Methyl and ethyl alcohol

Benzene

Mineral sprits, gasoline

Wood Stains/ Varnish

liver tissues.

Damage to digestive, genitourinary, neuromuscular and central nervous system; anemia and brain damage.

Wood Strippers

Chlorinated aliphatic hydrocarbons (methylene chloride) Toluene Benzene

Slow decomposition; liver and kidney damage. Flammable; skin irritation; narcotic properties; may damage liver, kidneys, central nervous system.

Flammable; carcinogen; accumulates in fat, bone marrow, liver tissue.

AUTOMOTIVE PRODUCTS

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PRODUCT TYPE	

SSIBLE INGREDIENTS

POTENTIAL HAZARDS

Ethylene glycol Antifreeze

Very toxic, 3 ounces can be fatal to adult; damage to cardiovascular system; blood, skin and kidneys. Damage to eyes, central nervous system.

Auto Batteries

Sulfuric alcohol

Methyl alcohol

Skin burns; single overexposure may lead to laryngeal or pulmonary edema (excess fluid in larynx or lung tissue)

Car Wax/Polish

Petroleum distillates

Associated with skin and lung cancer; irritant to skin, eyes, nose, lungs; entry into lungs may cause fatal pulmonary

Degreasers

Chlorinated aliphatic

hydrocarbons

Acids

Chlorinated aliphatic

hydrocarbons

Slow decomposition; trichloroethylene and perchlorethylene are suspected carcinogens; liver and kidney damage.

> Engine, Radiator Flush/Cleaner

Slow decomposition; liver and kidney damage.

Petroleum hydrocarbons (peuzene)

Corrosive, irritant, damage to kidney, liver and digestive system; pulmonary edema.

Motor Oil/ Gasoline

iritant to skin, eyes, nose, throat, lungs; pulmonary edema; Highly flammable; associated with skin and lung cancer;

Lead

Damage to digestive; genitourinary, neuromuscular and ceníral nervous system; anemia and brain damage. benzene is a carcinogen.

Rust Preventers/ Removers

Potassium dichromate Chlorinated aliphatic hydrocarbons

Very toxic; highly corrosive to skin and nervous membranes; if Slow decomposition; trichloroethylene and perchlorethylene are suspected carcinogens; liver and kidney damage. ingested may cause coma, liver damage.

appendixa

PESTICIDES

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POTENTIAL HAZARDS

Herbicides 2,4-D; 2,4, 5-T; 2.4-5-TP (Silvex)*MCPA, PRODUCT TYPE

Chlorinated Phenoxys

May be contaminated with dioxin, which is deadly and mutagenic; irritation to skin, eyes, throat.

> (Paraquat*, Diquat) Herbicides

Dipyridyl

Toxic, causes skin, eyes and throat irritations; causes lung, kidney and liver damage, death.

> Herbicides (Dinitrophenol, Dinitroorthocresal, Binapacryl)

Nitrophenois

interferes with oxygen transfer in cells; damages liver, kidney, Highly toxic; readily absorbed via skin, stains skin yellow; nervous system.

> Propoxur, Carbaryl Sevin) Pesticides (Aldicarb*, Oxamyl, Carbofuran, Methyomyl, Sectran,

Carbamates

Interferes with human nervous system.

Pesticides (Endrin*, Aldrin, Dieldrin, Toxaphene*, Hexachloride*, DDT*, Heptachlor*, Mirex*, Lindane, Benzene, ('ethoxychlor')

**Chlorinated nydrocar-

in fathy tissue; attack nervous system; suspected carcinogens Very slow biodegradation; accumulation in food chain and and mutagens.

> Ronnel, Axinphosmethyl) Mevinphos*, Demeton*, Disulfotan, Parathlon, Diazinon, Trichlorfon, Pesticides (Phorate,

Poison by interfering with the nervous system; can be toxic; biodegradable, but not much is known about the breakdown products.

Organophosphorus

Pesticides (Monvran, Divron, Linvron, Bromacil, Terbacil, Altrazine, Ametryn)

Low toxicity, but will irritate skin, eyes, throat. Urea, Uracil, Triazine-based

Anticoagulents may cause internal bleeding.

Coumaiuryl, Diphacinone, Rodenticides (Warfarin, Pinclone, Valone)

Coumarin



appendixa



- These pesticides are banned or restricted and should not be used by households.
- ** Specific Compounds of this chemical type are found on "Partial List of Compounds of Chemical Classes."

REFERENCES

- 1. NIOSH/OSHA Pocket Guide to Chemical Hazards, Frank Mackison, Scott Scricoff, Lawrence Patridge, Editors, September 1978.
- 2. Clinical Toxicology of Commercial Products, Marion Gleason, et al., 1969.
- 3. Toxicants in Consumer Products, Susan Ridgley, Seattle, WA. Household Hazardous Waste Disposal Project, 1982.
- 4. A Guide to the Safe Use and Disposal of Hazardous Products, Metropolitan Area Planning Council, 1982.

Notes:

- 1. The potential health hazards listed in this table are symptoms of acute poisoning and may be experienced as a result of high exposure or direct ingestion.
- Engineering, Division of Hazardous Watte and the University of Massachusetts, Department of 2. This table has been reviewed for accuracy by the Department of Environmental Quality Health and Safety.

This table was taken primarily from Dyckman, C., Luboff, C. and Smith-Greathouse, L., "Household Hazardous Waste Disposal Project" Report 1D, Sleuth, Metro Toxicant Program, Seattle, WA, August 1982.

PARTIAL LIST OF COMPOUNDS OF CHEMICAL CLASSES

Alcohols - methanol (wood alcohol), ethanol (grain and rubbing), isopropyl (rubbing alcohol), butanol, amyl alcohol

Aidehydes - formaldehyde, other aldehydes

Aliphatic hydrocarbons - butane, pentane, hexane, heptane

Alkalies - ammonia, lime (calcium oxide), potassium hydroxide, sodium hydroxide, sodium

Aromatic hydrocarbons - benzene, toluene (toluol), xylene (xylol); aromatic solvent naphtha; styrene, phenol (carbolic acid)

carbon tetrachloride, chloroform trichloroethylene (TCE), trifluorethane, perchloroethylene, Chlorinated aliphatic hydrocarbons - (halogenated hydrocarbons, chlorinated paraffins) trichlcroethane (methyl chloroform), methylene chloride (dichloromethane), dichloropropane

biphenyis (PCBs), chlorinated naphthalenes, chlorinated pesticides (DDI, kepone, etc.) Chlorinated aromatic hydrocarbons - chlorobenzene, dichlorobenzene, polychlorinated

Chiorofluorocarbons - fluorocarbons, fluorinated hydrocarbons, halogenated hydrocarbons

Esters - methyl acetate, ethyi acetate, butyl acetate

Ethers - ethyl ether, isopropyl ether, glycol ether

Glycols - methyl cellosolve, ethylene glycol, diethlene glycol, carbitol

Ketones - Acetone, methylethyl ketone, hexane, MIBK, MBK

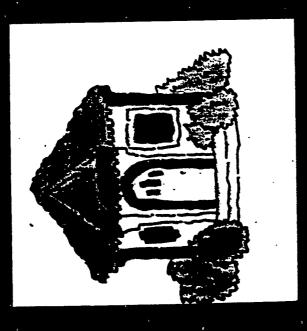
Petroleum distillates - petroleum ether; gasoline (petrol), white spirits, mineral spirits (Stoddard solvent), kerosene, fuel oil, lubricating oils, petroleum naphtha, lamp oil

Adapted from Household Hazardous Products Handbook, Federation of Ontario Naturalists.



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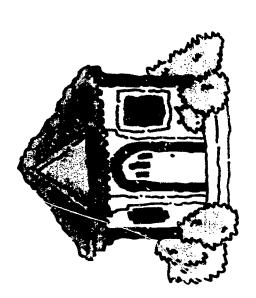
HAZARD HOUSE WORKBOOK



A WORKBOOK ABOUT HOUSEHOLD CHEMICALS MEMBERS MANUAL

BEST COPY AVAILABLE

WORKBOOK HAZARD **HOUSE** 二二二



HOUSEHOLD CHEMICALS A WORKBOOK ABOUT

MEMBERS MANUAL

Coordinator at the Department of Toxic Substances Control by writing to: Department of Toxic Substances Control, P.O. Box 806, Sacramento, CA 95812-0806 916 - 322 - 0476 please contact Melinda J. Fox, Public Education To obtain additional copies of this document, OPGL 91-04



TABLE OF CONTENTS

AZARDOUS HOUSEHOLD PRODUCTSPages 1 - 16	What Are They?	here Can You Find Them?
HAZAI	What Are	Where C

- S YOUR HEALTH SAFE?Pages 17 34 Let's Do The Safety Rules! Routes of Exposure Who Can Help?
- TO THROW OR NOT TO THROW? The Wrong Way Out The Three R's \mathbb{C}
- SAFER ALTERNATIVES......Pages 55 70 Compare And Contrast Do An Ad!
- WHAT DO YOU KNOW?Pages 71 75 Check Your Hazardous Household Product 1Q!





C hildren and adults are becoming more aware of the environmental problems of our planet. This book is about one environmental issue that you deal with every day: your house and the chemicals used in

your house. Did you know that many common items around your house are dangerous? Oven cleaners, toilet bowl cleaners, garden fertilizers, motor oil and some hobby supplies can all be called hazardous.

This book will share information about those hazardous items. It will provide you with the facts and then let you decide what to do about them. Please turn the page and learn more about your house and what's inside!



SECTION

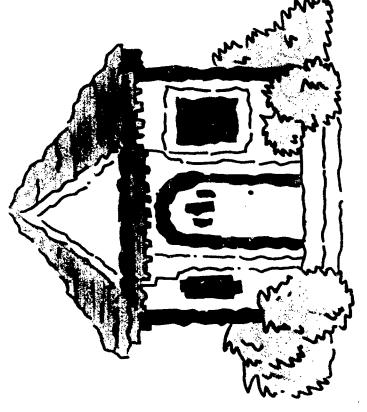


HAZARDOUS HOUSEHOLD PRODUCTS

What Are They?

Where Can They Be Found?

nazardous to you if items, paint, medihold products are products found in cleaners, furniture used in the wrong way. This first sechazardous houseproducts, can be understand what and around your tion will help you and where they cines and auto M any of the home, such as polish, garden can be found.





WHAT DOES HAZARDOUS MEAN?

T he word HAZARDOUS

means that the chance of being injured or harmed is present. Hazardous things can make people, animals, or the environment sick.

There are four ways to tell if something is hazardous. If something is ignitable, corrosive, reactive or toxic, it can be hazardous.

Ignitable

Can catch on fire easily.



Keactive

Can catch on fire, explode or give off dangerous fumes when exposed to water or air.

orrosive







Can make you sick immediately or over a period of time.

7.67



WHAT IS A HAZARDOUS **PRODUCT?** HOUSEHOLD



A hazardous household product common items are house that can be hazardous, Some tollet bowl cleanname says - it is a ers, weed killers, product in your is just what the

of improperly, you, stored or disposed cleaners. If these environment can freeze and oven your pets or the items are used, be injured.









 ∞





100K WHAT'S **HAZARDOUS**

The following is ardous household mentioned? If so, products that you hold products not a list of some haznazardous houseyour house. Can you think of other may find around add them to the

Foilet Bowl Cleaners Laundry Detergent Room Deodorizers **Charcoal Lighter** Pet Flea Collars Oven Cleaners Glass Cleaners Furniture Polish Paint Strippers Bubble Bath Weed Killer **Brake Fluid Pool Acids** Floor Polish Medicines Antifreeze Slug Bait Paint

200

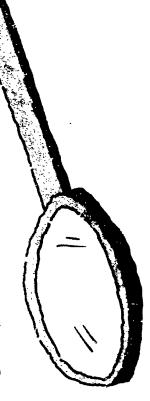
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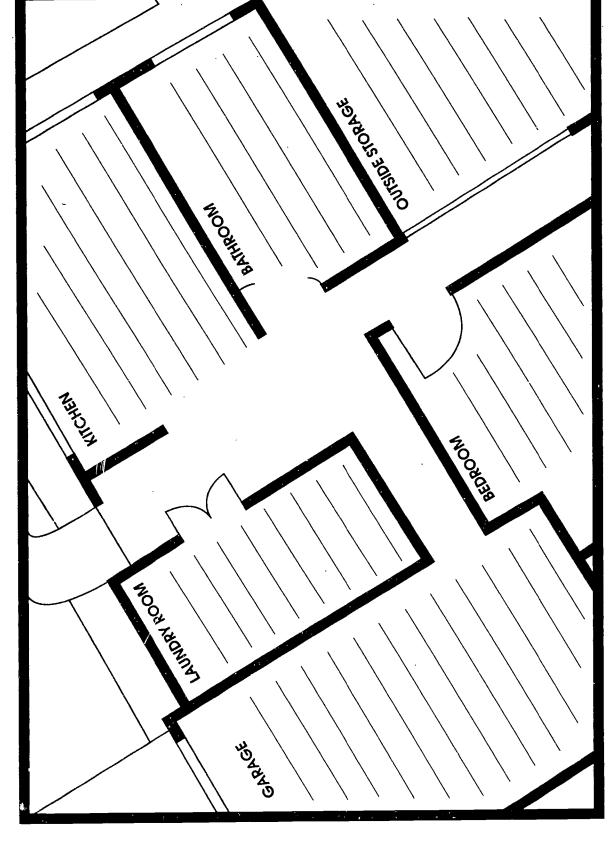


BE A HAZARD DETECTIVE

YTIVITOA

I nspect your household for hazardous household products. Fill in the map on the following page where they are located. Be sure to look in any storage areas, sheds or garages that may be part of your house.





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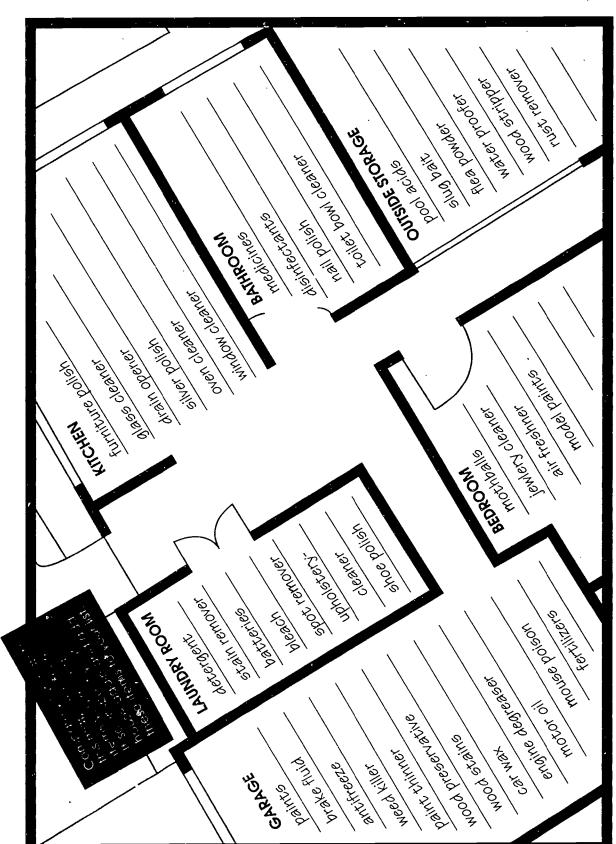
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READ THE LABEL

Label reading is a good way to see the benefits and the possible dangers of a product. A variety of signal words are used to alert the user to potential dangers. The following list shows the many words you can find on labels.

CAUTION - Be careful. The product should be used

with care.

WARNING - It implies a stronger risk than caution. Use with added care.

DANGER - Exposure or unsafe use may cause injury, illness or death. POISON - A substance that, through its chemical action, usually kills, injures or impairs a living thing quickly.

TOXIC - Similar to poison, but injury can occur quickly or over a long period of time.

HARMFUL - Can cause injury or damage. FLAMMABLE - Easily set on fire, will burn quickly.

SKULL & CROSS-BONES - Danger.
May cause injury, illness or death.

SEARCH WORD

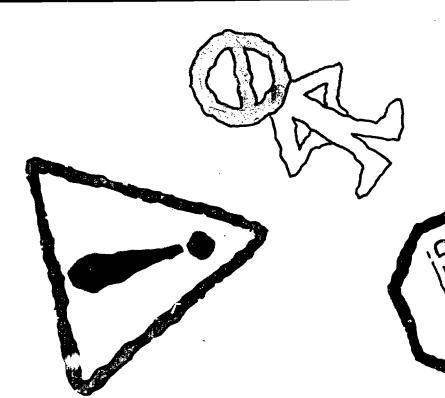
if something is safe packages tell you handle. Here is a them in the word or dangerous to label. Try to find ist of words you might find on a search puzzle! **L** abels on

OMNCRPERTUVILM DPLMCDETICWRIVG NAINGREDIENTSBOO WZLTGGHARMFULQWE AINBEWARNINGOIK ORAFLAMMABLEXPIO ORROSIVEMTPLNGJ A SOBNLXESDOPKIBN UBXPOISONXIGNCE OIOKMGHPOILE

WARNING **POISON** TOXIC NGREDIENTS **HAZARDOUS** HARMFUL LABEL **FLAMMABLE** CORROSIVE CAUTION DANGER

HAZARD STICKERS

products in your house. It can look examples you see **D** esign a sticker on all the hazardeffective in warnnere or whatever that you can put you think will be ing people that these products are hazardous. ous household like any of the



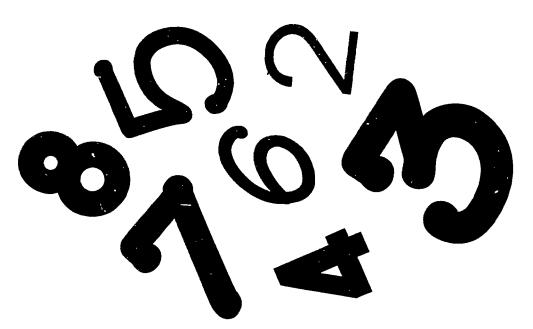
S + 3

)]]



DO THE COUNT

your list from Activneed. Color them Tape or glue them and cut them out. products that you number of houselabels already on hold products on onto the hazardocated. Don't the containers! ous household Draw as many stickers as you cover up the ity 1, page 6. C ount the





GOOD LABEL? BAD LABEL?

A good informative label should include the following:

- A signal word such as "danger", "warning" or "caution" depending on the level of danger. This should appear on the front label.
- 2. A description of the hazard, such as "vapor-harmful", "flammable", etc. This should also appear on the front label.
- 3. A statement that warns users how to avoid the hazard. Example: "Use in a well ventilated area".
- 4. A common or chemical name for the hazardous substance.
- 5. Instructions for safe use and handling.
- b. First aid instructions.
- 7. The riame and location of the manufacturer, distributor or repacker.
- 8. The statement, "Keep Out of Reach of Children", or its equivalent.





rou be

JUDGE 工

ACTIVITY

in what's missing in should include. Fill that it should? Go examples of prodback to page 13 informative label uct labels. Does each label have all the warnings R eview the 2 o see what an the blanks

 $\vec{\alpha}$

quirements. What This product label is missing two reare they?

CAUTION:

Eye Irritant

Use with gloves and eye protection.

minutes. Call physician if eyes upon direct contact swallowed. Drink a glass with water for at least 15 May be irritating to the n case of eye contact, immediately flush eyes full of water.

Ingredients: Water, ammonia, vinegar and coloring.





































823



label is missing two What are they? T his product requirements.

 $\vec{\alpha}$

DANGER:

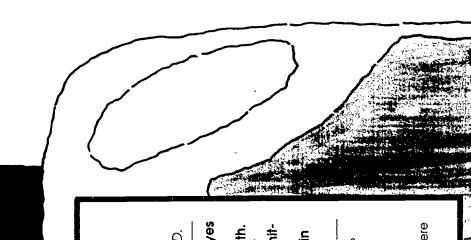
HARMFUL IF SWALLOWED. KEEP OUT OF REACH OF CHILDREN. CAN CAUSE BURNS ON CONTACT.

CTIVITY

FIRST AID: EYES: Rinse eyes milk. Do not induce vomit-SWALLOWED: Rinse mouth ected clothing, flush skin immediately with water. Drink a glass of water or ing. SKIN: Remove afwith water.

Ingredients: Contains 1.7% sodium hydroxide and 6% sodium hypochlorite.

PRODUCTS, Acme, Anywhere An ACME product, ACME





-EARNED? HAVE WE WHAT

about this section. Tally your answers A nswer the following questions missed. How did and review the questions you you do?

- 1. Give three examples of hazardous household products.
- ਰ
- <u>a</u>
- \hat{o}
- 2. Name three examples of signal words used on labels of hazardous household products.
- ਰੇ
 - <u>a</u>
- dizziness may be signs of overexposure to haz-3. TRUE OR FALSE? Headaches, sleepiness and ardous chemicals.
- TRUE OR FALSE? Something is hazardous if it is toxic, flammable, corrosive or ignitable. 4
- can harm you, your pets or the environment. 5. TRUE OR FALSE? Something is hazardous if it





SECTION



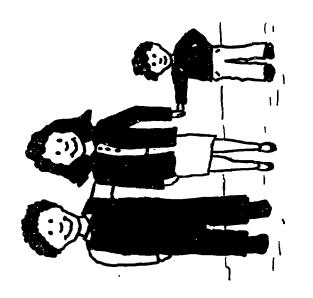
IS YOUR HEALTH SAFE?

Routes of Exposure

Do The Safety Rules

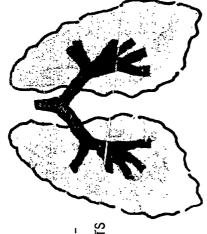
Who Can Help?

M any hazardous household products can harm people if used incorrectly. This section will show you how the human body can be affected by chemicals. You will also learn what safety rules you should follow when using hazardous household products.



EXPOSED? ARE YOU

sure is what occurs be affected unless C hemical expocomes in contact and cause harm: A person cannot body. There are stances can get with a chemical ber, or your pet) three ways that the chemical is hazardous suborganism (you, a family memtaken into the into the body when a living



(breathing) Inhalation



Ingestion

(eating or drinking) **Dermal Absorption** (skin contact), g

S.2.3

AFFECTED BY HAZARDOUS MATERIALS? WHICH WAY COULD THE BODY BE (Fill in the blanks)



ACTIVITY















ACUTE OR CHRONIC

E ffects of chemicals can be acute or chronic. An acute effect shows up shortly after a single large exposure to a chemical. An example would be a child drinking a large amount of drain opener. The substances in drain opener (called lye or sodium hydrox-

ide) is very corrosive to body tissue and can cause burns. Once ingested, it will eat away at anything it touches - mouth, face, esophagus, etc. Chronic health effects are those which only show up after repeated exposures to substances. For example,

pesticides often contain arsenic. If a person sprays pesticides regularly for many years, and comes into contact continually with the pesticide spray, the chronic health effects can include lung cancer and nervous system problems.



WORD MATCH THE WITH THE **APPROPRIATE DEFINITION**

- a, acute
- b. ingestion
- c. chronic d. inhalation

YTIVITOA

- e. dermal contact
- Refers to eating or drinking some
 - thing
- Absorbing chemicals through the An effect caused by repeated exposures to archemical
- An effect after a short term, large exposure to a chemical
- Breathing a chemical or hazardous material into the lungs

233





DO THE SAFETY RULES

The following is a list of precautions (safety rules) that should be followed when using hazardous household products. Does your family follow these rules when using these items?

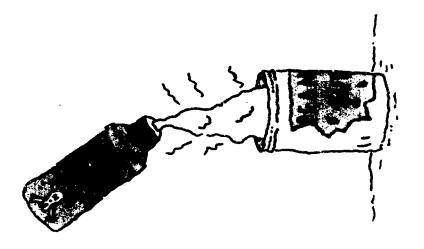
- 1. Read all labels carefully.
- . Do not mix products.
- . Use only in well ventilated areas.
- Keep containers tightly closed. Keep products away from children
 - Keep products away from children and pets.
- Wear protective clothing (long sleeve shirts, gloves).
 - 7. Clean up area after use.
- Dispose of contents and/or containers in an appropriate manner.
- 9. At oid aerosols.
- Buy the least hazardous product (or choose a safer substitute).
- 11. Buy only the amount you need.
- 12. Know the number of the local poison control center.
- Never put products in a different container.



WHAT SAFETY RULE IS BEING IGNORED?

(Fill in the blank below)

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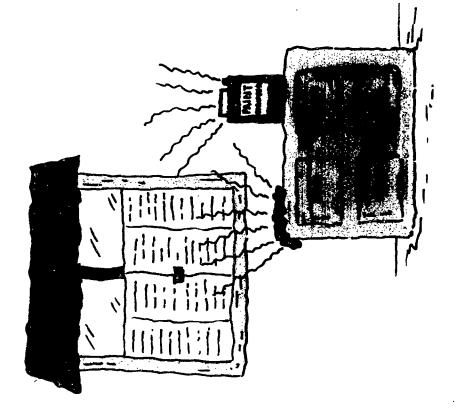






WHAT SAFETY RULE 19 BEING IGNORED?

(Fill in the blank below)



ACTIVITY

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2.10



WHAT SAFETY RULE 19 BEING IGNORED?

(Fill in the blank below)







WHEN IT COMES TO HOUSEHOLD HAZARDOUS PRODUCTS, BE PREPARED

current information lem is at your local partment. Look in stances. The most on how to handle for the telephone emergency when this kind of probelephone book he front of your local Health Debeen injured by nazardous sub-Center or your Poison Control Someday you someone has **G** et ready! may be in arı numbers.

hospitals. They are ment and prevenpers for emergen-Centers are often about hazardous tion. They usually answer questions cies and general poisoning, treatelephone numinside your local substances and staffed with ex-Poison Control perts who can nave different questions.

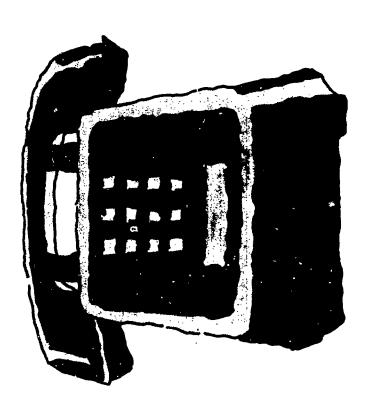


EMERGENCY!

YTIVITOA

W hat is the emergency telephone local Poison Conwhere household trol Center? Post this number near number for your your telephone and in areas products are stored.

Fill in the phone #





FIND OUT ABOUT YOUR LOCAL POISON CONTROL CENTER

U SING THE NON-EMERGENCY NUMBER, call the local Poison Control Center. Do the following...

- Identify yourself and what youth group you belong to.
- Ask what steps should be followed if someone comes in contact with hazardous chemicals.
- 3. Ask what should be included in a home first-aid kit that could help in an emergency with hazardous products.
- 4. Thank the person for their time and information.



WITH PICTURES? WHAT'S WRONG THESE

go wrong. What is hazardous in each you situations that each picture, De-T he next three dangerous. Fill in the blanks below scribe what can pages will show are potentially picture?

YTIVITOA

#1

ACTIVITY

ERIC

Full Text Provided by ERIC

30 section 2

ACTIVITY



#2

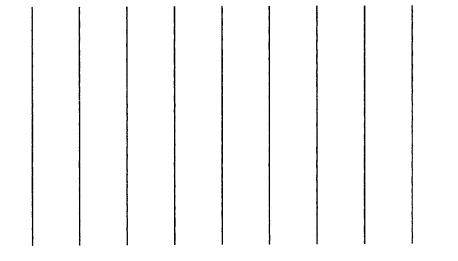
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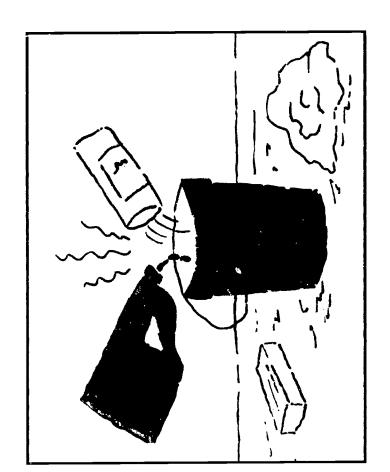
328

section 2

32



#3



ACTIVITY



COMPLETE THE CROSSWORD!

YTIVITOA give you information about poisons can result in these kinds of effects Numerous, repeated exposures 1. To breathe is also known as this household products are often A substance in drain cleaner A possible health effect of A place where hazardous 2. An organization that can 1. Eating or drinking is also shows up shortly after a single, large exposure A type of effect that Skin contact is also known as this rug cleaners called this stored **ACROSS** DOWN

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Number one safety rule when

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4

using household products





USE THESE WORDS FOR THE CROSSWORD PUZZLE:

acute
anemia
chronic
dermal absorption
garage
inhalation
ingestion
lye

read the label



SECTION



TO THROW OR NOT TO THROW?

Disposal Methods The Three R's



happen with these ect disposal methto get rid of it or to pose of hazardous correct and incordisposal methods, environment. This and, what groups something means products unsafely, This can hurt both Some people disnumans and the with these issues. exist to help you section will help T o dispose of you understand ods, what can throw it away.

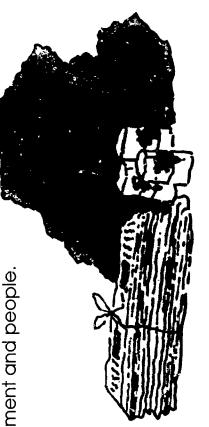




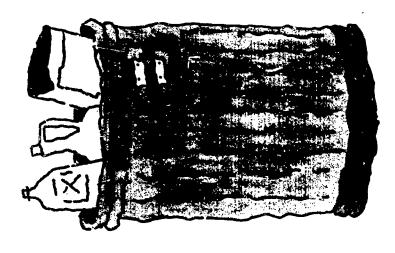
EFFECTS COMMON **METHODS AND THEIR** DAMAGING DISPOSAL

the trash, burning it, storing it, or dumping it down storm drain. All of narm the environdispose of waste the sink, toilet or by throwing it in P eople often can sometimes hese methods

various methods of possible dangers disposal and the people and the pages describe environment. The following hey pose to







IN THE TRASH

cause burning or blindness. Reactive prodplaces have been injured in the same way. ucts have resulted in fumes that sent workcollected the trash. Sometimes items such as pool chemicals splash in their eyes and ers to the hospital. Garbage usually goes Garbage collectors have been injured by household products when they have to landfills or dumps. Workers at these

BURIAL

in a hole in the ground can sink into the soil and cause both soil and groundwater to $oldsymbol{P}$ roducts dumped on weeds or buried be contaminated (dirtied),





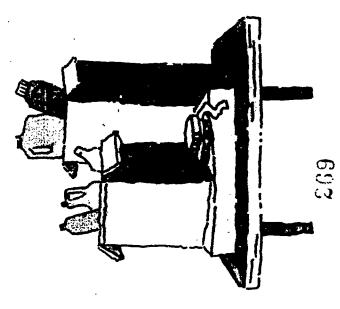


BURNING

urning products or wastes is also known as incineration. Incineration can sometimes result in air pollution. Many items are explosive and there are many stories of people being injured when they burn their garbage.

STORING ITEMS

5 toring products indefinitely can be an invitation to an accident. Smail children can be exposed to the products. Firefighters have been injured by a variety of household products when responding to fires.



700



DOWN THE SINK OR TOILET

When you pour something down a sink or flush it down the toilet, the water and the product go to the sewer or to a septic system. The sewers are a system of underground pipes that collect waste from each house, hotel, store, office build-

ing and factory.
They bring it all together into huge pipes at a sewage treatment plant.

If your house is not hooked up to a sewer system, it has a septic tank. A septic tank is a large underground concrete container hooked to fields where water drains. It is like a small sewage treatment plant. In both cases, the waste is broken

down (decomposed) by small
organisms. If pollutants enter the
system, the organisms are killed and
the hazardous
substances remain. They can
then get into the
soil in the drainfield, into groundwater and into
connecting water-



0/3





INTO A STORM DRAIN

A storm drain is the metal grate at the sides or curbs of streets. Underneath the grate is a catch basin which catches the rain that runs into the drain. Anything that is poured into a gutter, into a backyard or on a driveway can go with the rain or sprinkler water into the drain. Storm drains are hooked up to pipes that go to creeks, rivers and lakes. In some areas, the pipes join up with the sanitary sewage pipes and go to the sewage treatment plant.

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(V)



QUIZ TIME

A nswer the following questions concerning hazardous household products:

 Who can become injured if you throw your hazardous household products in the trash before they are empty?

YTIVITOA

- 2. Where do hazardous chemicals go if they are buried in the ground?
- What is sometimes caused by burning products that contain hazardous substances?
- 4. Who might be in danger if household products are stored for a long period of time in the garage or on siorage shelves?
- 5. Where does anything go if you pour it down the sink, flush it down the toilet or put it in a storm drain?

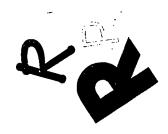


section 3





THE THREE R'S



There is more we can do with hazardous household products than throw them away. Many things we toss into the trash can be reused, reduced or recycled. These are cycled. These are called the THREE

REUSE

Give the leftover pesticides or paint to a school or church; they will use it up safely and then throw the can away.

REDUCE

Use fewer hazardous household products. A general household cleaner can work in many places. You don't need a different cleaner for each kind of dirt or cleaning problem.

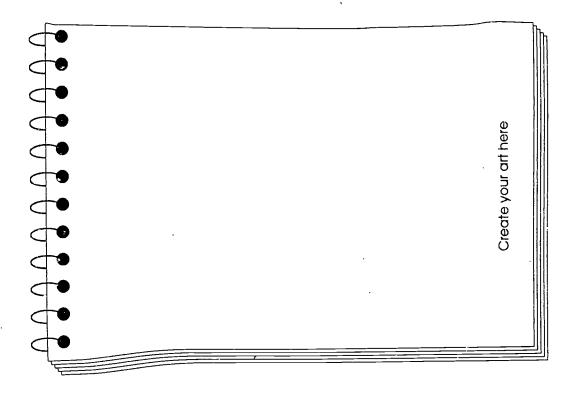
RECYCLE

Help your family recycle used motor oil, brake and transmission fluids, water-based latex paints and car batteries, in addition to your other recyclables (newspapers, aluminum, glass, plastic and cardboard).



DO SOME ART

cartoon about the THREE R'S. At your bumper sticker or next group meet-Share it with your **M** ake a poster, ing, share it with other members. family.



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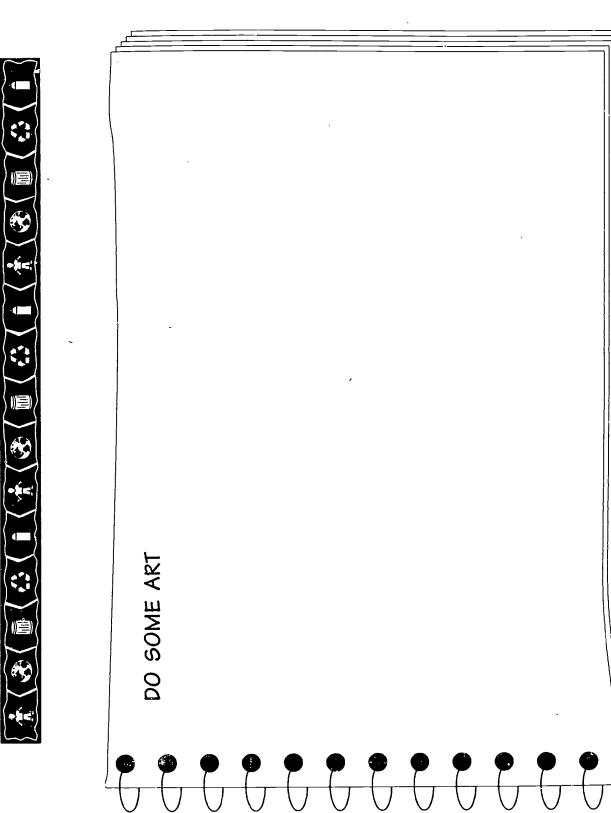
(2) (2)

230



DO SOME ART









YOUR RECYCLE **TRASH**

accept household waste items (newscans, glass, plastic bottles and cardhazardous waste paper, aluminum board). Some of M any communities have recycling centers for centers will also these recycling common solid

activity: call your will they accept? that you need to them what items get rid of. Your center and ask local recycling List items here:

285

section 3





COLLECTION

usually work for the up collection days who are trained in staffed by people hazardous materials. These people that you no longe HOUSEHOLD HAZplaces are usually munities have set those hazardous These are called nousehold items or places just for **ARDOUS WASTE** EVENTS. These **S** ome comwant or need. COLLECTION

the health department, the public works department or another agency.



202

236

fire department,



LET YOUR WALKING FINGERS OO SOME

household hazardmal business hours call the office and MENT. During nor-COUNTY and find Government secbook. Go to the the listing for the **HEALTH DEPART**ment manages your telephone lion in the front. **O** ben up the white pages of nealth departask them if the ook under

tion events. If they n your community. Write their answer who does do that ous waste collecsay no, ask them here.

			!
-	i		

POLLUTION PREVENT

that are washed from cars often ends up in storm drains and then in streams and rivers. Pesticides are often washed off from farm-O ur land and our water becomes polers' fields. Waste water from industries is luted in many ways. The oil and grease sometimes discharged directly into streams.

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Knowing this, try to answer the following questions:

- 1. If there was an oil leak from a car in your driveway, where would the oil go?
- birds and other wildlife going to be in-2. If there is an oil spill in the ocean, are jured or die?



SCRAPBOOK **HAZARDOUS**

terials. Paste them comics that relate and in magazines. on the scrapbook Cut out the headto hazardous ma-**L** ook for newsyour local paper paper articles in ines, photos or pages.

Below each article should have been tence about the correct disposal write one senmethod that



HAZARDOUS SCRAPBOOK ITEMS

YTIVITOA

Don't forget to add the disposal information!

£03

HAZARDOUS SCRAPBOOK ITEMS

















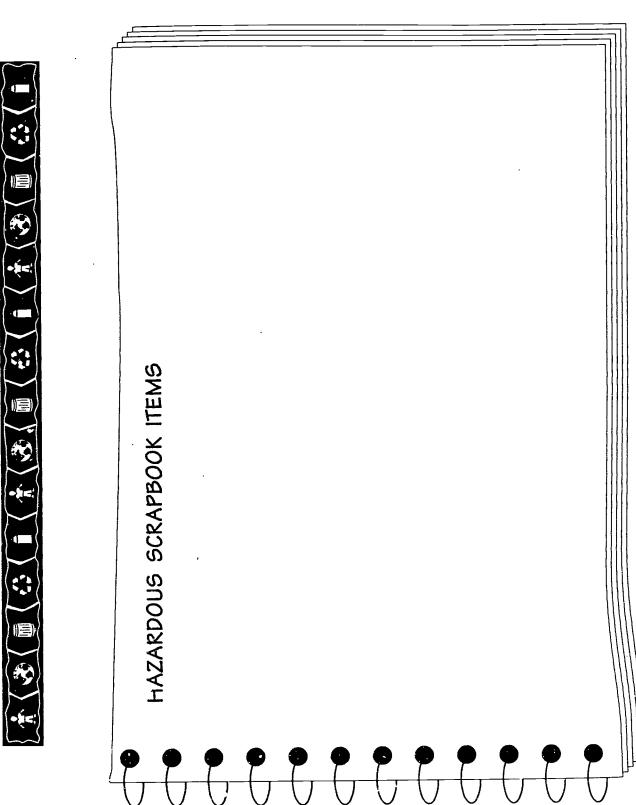






ACTIVITY









(CIIVII)

WHAT HAVE WE LEARNED?

A nswer the following questions about this section.

- TRUE OR FALSE? Dumping hazardous household products down the toilet is a correct disposal method.
- 2. Name the THREE R's that can lessen the disposal problem.
- 3. Name three items that can be taken to a household hazardous waste collection
- , event,
- 4. TRUE OR FALSE? You can do something about the hazardous waste problem.





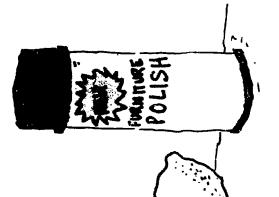
SECTION



SAFER
ALTERNATIVES
TO HAZARDOUS
HOUSEHOLD
PRODUCTS

Compare And Contrast

M ost people are unaware that there are safer alternatives that can be used in place of many potentially hazardous products. This section will show you some of the suggested alternatives, and how easily they can be used in your house-hold.







The following is a list of safer substitutes for some household toxics. Generally, the products can be bought in grocery stores.

Aerosol Sprays

- Aerosols should not be used at all!
- Use non-aerosol, pump-type sprays.

Ant Control

- Sprinkle cream of tartar in front of the ants path.
 Ants will not cross over. Cream of tartar is a substance used in baking. Look in the kitchen cupboard.
 - Try red chili pepper, salt, dried mint or sage in the ant's path.
- Mix 1 tablespoon borax, 1 tablespoon sugar and 2 tablespoons of water to make a thick syrup.
 Soak cottonballs in the mixture and put the cottonballs on low lids or something flat. Put the lids in the middle of the ant colony.

Bug Spray

- Place screens on windows and doors.
- Brewers yeast tablets taken daily give the skin a scent that mosquitoes seem to avoid.





Chemical Fertilizers

- Compost.
- Mulch.
- Dried coffee grounds, bone meal and wood

Copper Cleaner

Pour vinegar and salt over copper and rub.

Deodorizers / Air Fresheners

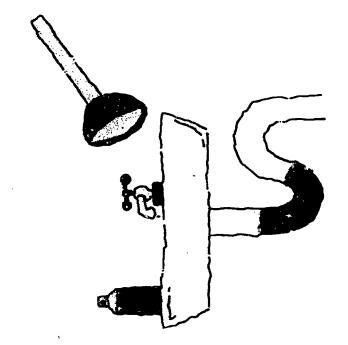
- Simmer cinnamon and cloves.
- Set out a dish of hot vinegar.
 - Burn scented candles.
- Baking soda is good for odors in the refrigerator, cat box, drains and ash trays.

Detergents (Laundry and Dishwashing)

- For dishes, use baking soda and liquid soap.
- For laundry, use borax, washing soda or liquid soap.

Drain Openers

- Pour boiling water down the drain. Do this every week for preventive maintenance.
- Use a plumber's helper (plunger) or a plumber's





Flea Repellant

- Feed pets brewer's yeast, vitamin B or garlic tablets (not a lot!)
- Use eucalyptus leaves and seeds around the pet's bed.

Furniture Polish

- Mix lemon juice and vegetable oil
- Mix vegetable oil and white vinegar.

Glass and Window Cleaners

- Use cornstarch and water.
- Mix 1/2 cup vinegar and one quart warm water. Wipe with newspapers.
- Use lemon juice and dry with a soft cloth.

Oven Cleaners

- Mix 3 tablespoons of washing soda with one quart of warm water.
- Place liners in oven to catch any drips during baking.
- Sprinkle salt on spills when they are warm and then scrub.
- Rub spills gently with steel wool.





Oil or Solvent Based Paint

 Water based paints are less toxic than oil or solvent based. After using them, no solvent is necessary for "cleanup".

Rat and Mouse Poison

Use mechanical snap mousetraps.

Rug and Upholstery Cleaners

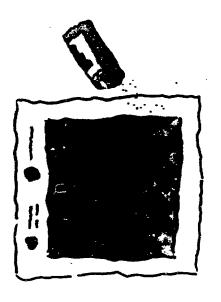
For spills, clean with club soda and clean cloth.

Scouring Powders (Abrasiye Cleaners)

- Use baking soda or borax with a damp cloth.
 - Scrub area with 1/2 lemon dipped in borax.

Snail / Slug Bait

- Place a shallow pan with beer in the infested area.
- Overturn claypots. The snails will take shelter in them during the sunny days and they can be collected and removed.





CONTRAST COMPARE AND

common products are: glass cleaner, snail bait, furniture tutes to a product rypically uses. Exn this activity, pare safer substiyou get to compolish and drain amples of these your household cleaner.

Pick two products that are normally used in your house. Find their safer substitute(s) on pages 56 - 59.

Ask an adult for permission to use the alternatives for 2 weeks. Complete the charts for the two products you selected. Fill in the blanks on pages 61 and 62,

You will be keeping track of:

- 1. Which product worked better (how efficient was it at doing its job)?
- 2. The cost of each product. 3. How easy is it to find the products in stores?
- How are the products disposed?

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COMPARE AND CONTRAST CHART

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Product:

Cost:

Where was it bought?

How efficient was it? (Circle one) Very

Moderate

Not at all

Safety Tips:

How do you dispose of it?

SAFE SUBSTITUTE

Product:

YIIVITOA

Cost:

Where was it bought?

How efficient was it? Moderate (Circle one) Not at all Very

Safety Tips:

How do you dispose of it?

.61

section 4



COMPARE AND CONTRAST CHART

TYPICAL PRODUCT

Product:

Cost:

Where was it bought?

How efficient was it? (Circle one)

Very

Moderate Not at all

Safety Tips:

How do you dispose of it?

SAFE SUBSTITUTE

Product:

Cost:

Where was it bought?

How efficient was it? (Circle one)

Very

Moderate Not at all

Safety Tips:

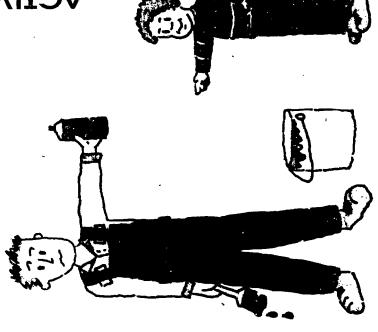
How do you dispose of it?

ر: در

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SHOW OFF YOUR SMARTS

5 how the Compare and Contrast Chart to the person who normally uses that potentially hazardous household product. Ask them if they are willing to switch to the safer substitute.



(1) (1)

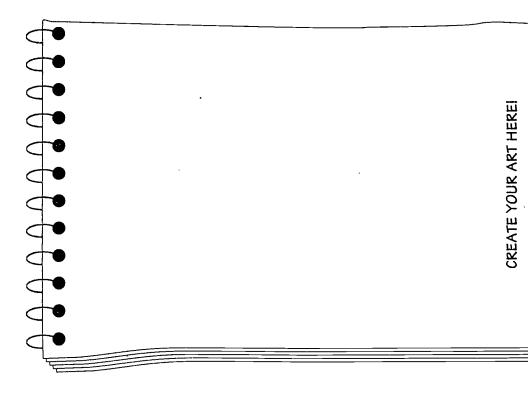
(;<u>)</u>

(C)



CUT AND PASTE

Make a collage of common products and their safer alternatives. Use pictures from newspapers and magazines and your own drawings.









CREATE YOUR ART HERE!

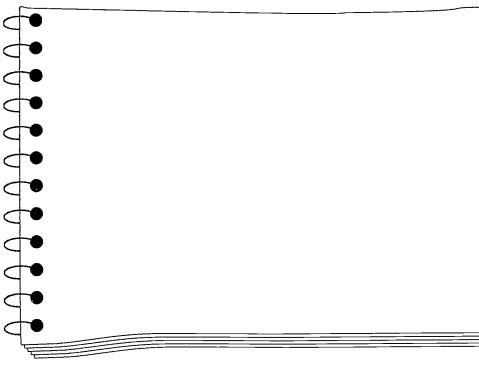
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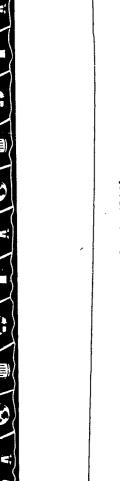
323

MEDIA STAR

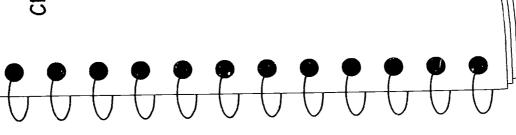
 $oldsymbol{P}$ retend you are zine. Write or draw vision station, radio for a safer alternaworking for a telean advertisement station or maga-



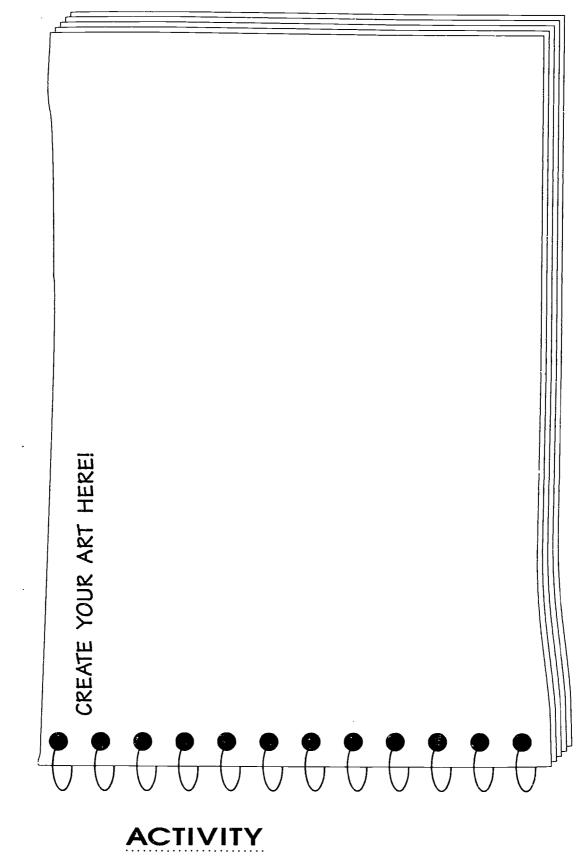




CREATE YOUR ART HERE!







B 675





CHECK YOUR HAZARDOUS HOUSEHOLD PRODUCT IQ



A nswer the following questions about safer substitutes: List two household products and their safer substitutes.

•	

TRUE OR FALSE? Brewers yeast can take the

. .

place of bug spray.

A clogged drain can be cleared with a

	or a		. TRUE OR FALSE? Safer substitutes have less of a	chance to harm you or the environment.
--	------	--	---	--







WORD HUNT

in the maze. They F ind the words may be in any direction.

BIODEGRADABLE **WASHING SODA** COMPARISON ALTERNATIVE **PRODUCT** VINEGAR **DISPOSAL** CHOICE SAFER COST

P A E (1) **V** M U N N D W \simeq ш മ AMLN WASHINGSODAGOCFV ATOBNICESDOPSOB ഗ BAEDARGEDOI OOAFRAMMABOERR ഗ GGLINORM I C E O O N X T N R M O Y Z E D I E N I IOKMAHSO DALTERNAT ш ۵ LHOMNC OHO WPST OEL

S S S

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ACTIVITY



SECTION

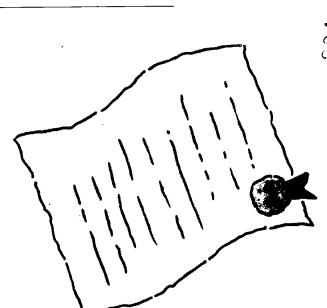


EVALUATE YOUR EXPERTISE

Y ou have now toured your home, the garage, and other storage areas and become acquainted with hazardous items. You know that hazardous substances can harm you, your pets, and your environment. To prevent such injury you must use, store

and dispose of the items safely. You have also seen some safer substitutes that you can use if you decide to make the switch.

Complete the last set of activities and be safe with hazardous household products in the future!



HOW IS IT **HAZARDOUS**



"R" If It Is REACTIVE, the object is IGNIT-Place an "I" if tems may need more than one ABLE, "C" if it is TOXIC. Some and "T" if it is CORROSIVE,





medication drugs and nunsed

ammonia together chlorine mixed and

hair spray

powders scouring

motor oil





FIL N

Materials that can cause harm to you or the environment are **BLANKS**

YTIVITOA

The three "R"s are

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FILL IN

BLANKS

How can hazardous waste be safely disposed?

Name three advantages of using safer substitutes.

(,) (,)





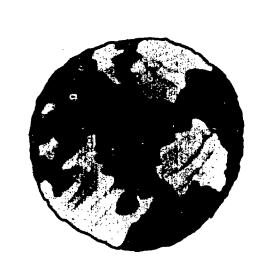






ERIC

YOUR LAST QUIZ



Match the correct word with the definition.

- a. reactive
- b. poison control centers

YTIVIT

- c. incineration
 - d. dispose
- e. recycle

To throw something away

Processing used material into To burn something

questions about hazardous sub-Facilities with experts to answer new products

stances

explode, or give off dangerous Something that can catch fire, fumes (J) (J)